



Evaluation of Australia's response to El Niño Drought and Frosts in PNG 2015-17

INL847

Prepared for //
Australian Department of
Foreign Affairs and Trade
Dates // Drafted 29 September;
Finalised 15 November 2017
By // Bernard Broughton

IOD PARC is the trading name of International
Organisation Development Ltd//
Omega Court
362 Cemetery Road
Sheffield
S11 8FT
United Kingdom

Tel: +44 (0) 114 267 3620
www.iodparc.com

Contents

Acknowledgements	i
Acronyms	i
Executive Summary	iii
Introduction	iii
Responses to El Niño impacts	iii
Planning and overall efficiency	iv
Appropriateness and effectiveness	iv
Contribution to resilience and national and local leadership and capacity	v
Recommendations to DFAT	v
Evaluation purpose, scope and methodology	1
Purpose of the evaluation	1
Scope of the evaluation	1
Evaluation questions	1
Methodology	1
The 2015 El Niño and impact assessments	2
El Niño warning	2
Assessments conducted	2
Mortality and child malnutrition	3
All-causes mortality and the impact of El Niño	3
Child malnutrition in PNG and the impact of El Niño	4
Responses to El Niño impacts	4
Government of PNG response	4
International response	5
Australian Government response	5
Evaluation Question 1: Was Australia's humanitarian assistance well planned and efficient? 6	
Contingency planning	6
Efficiency	7
Evaluation Question 2: Was Australia's humanitarian assistance appropriate, timely and effective? 8	

Diplomatic risk perspective	8
Leadership perspective	8
Investment performance perspective	9
Humanitarian advocacy perspective	9
Community perspective	9
Appropriateness and effectiveness of individual investments	10
Evaluation Question 3: How and to what extent did Australia's response contribute to resilience and national and local leadership and capacity?	20
Contribution to longer-term resilience	20
Contribution to national and local leadership and capacity	21
Recommendations for DFAT	22
Annex 1: Terms of Reference	1
Annex 2: Documents reviewed	6
Annex 3: People interviewed	8
Annex 4: Itinerary and tasks in PNG	11
Annex 5: Timeline of Events 2015-16	13
Annex 6: Analysis of Assessments	14
Government of PNG assessments	14
Non-government assessments	14
WFP mVAM assessment	15
Flaws in assessment methodologies	16
Annex 7: Mortality and child malnutrition	18
All-causes mortality and the impact of El Niño	18
Child malnutrition in PNG and the impact of El Niño	19
Annex 8: Response, recovery and resilience investments	21
Response	21
Recovery and resilience	22
Annex 9: Rice airlifted by DFAT	24

Acknowledgements

The evaluation was very ably managed by DFAT staff in the Australian High Commission in Port Moresby, including John Francis and Penny Nettlefold. Nige Kaupa ensured we had a viable plan for visiting provinces and a several communities and Jenny Max bore the burden of organising and reorganising our flights. Thanks also to Steve Burns who assisted for DFAT in Canberra. The PNG National Disaster Centre was very helpful, as were Provincial Disaster Coordinators. The National Agricultural Research Institute facilitated field work in Tambul and CARE kindly facilitated field work in Henganofi.

Acronyms

ACC	Australian Civilian Corp (Australian Government)
ACR	Activity Completion Report
ADAPT	Agricultural Drought Recovery and Adaptation Training
ADF	Australian Defence Force
ADRA	Adventist Development and Relief Agency
AHC	Australian High Commission Port Moresby
AHP	Australian Humanitarian Partnership
ANCP	Australian NGO Cooperation Program
ANU	Australian National University
BOM	Bureau of Meteorology (Australian Government)
CERF	Central Emergency Response Fund (UN)
CHS	Church Health Services
CPP	Church Cooperation Program
DFAT	Department of Foreign Affairs and Trade (Australia)
DMT	Disaster Management Team
DRR	Disaster Risk Reduction
DSIP	District Services Improvement Program
ECHO	Directorate-General for European Civil Protection and Humanitarian Aid Operations
EMOP	Emergency Operation (WFP)
ENSO	El Niño–Southern Oscillation
FAO	Food and Agriculture Office (UN)
FAQC	Final Activity Completion Report (DFAT)
FBO	Faith Based Organisation
GA	Geoscience Australia
GAM	Global Acute Malnutrition
gm	gram
GoPNG	Government of Papua New Guinea
HPA	Humanitarian Partnership Agreement
IOM	International Office for Migration (UN)
kcal	kilocalorie
kgs	kilograms

LLG	Local Level Government
MAM	Moderate Acute Malnutrition
M&E	Monitoring and evaluation
MFAT	Ministry of Foreign Affairs and Trade (New Zealand)
MNP	Micro-nutrient powder
MP	Member of Parliament
MUAC	Middle Upper Arm Circumference
mVAM	mobile Vulnerability and Mapping (WFP)
NARI	National Agricultural Research Institute (PNG Government)
NDC	National Disaster Centre (PNG Government)
NDComm	National Disaster Committee (PNG Government)
NDoH	National Department of Health (PNG Government)
NEC	National Executive Committee (PNG Government)
NGO	Non-government organisation
OCHA	Office for the Coordination of Humanitarian Affairs (UN)
OTDF	Ok Tedi Development Foundation
PDC	Provincial Disaster Committee
PGK	Papua New Guinea Kina
PNG	Papua New Guinea
Post	Australian High Commission Port Moresby (DFAT)
R/HC	United Nations Resident/Humanitarian Coordinator
RIMES	Regional Integrated Multi-Hazard Early Warning System
ToR	Terms of Reference
SAM	Severe Acute Malnutrition
SOP	Standard Operating Procedures
SUN	Scaling Up Nutrition
TOT	Trainer-of-trainers
UN	United Nations
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
UN R/HC	UN Resident/Humanitarian Coordinator
VSLA	Village Savings and Loans Association
WASH	Water, Sanitation and Hygiene
WB	World Bank
WFP	United Nations World Food Programme
WHO	World Health Organisation
WV	World Vision

Executive Summary

Introduction

1. This report presents the results of an evaluation of the Australian Government's response to the 2015 El Niño drought and frosts in PNG conducted by an independent consultant in August 2017. The evaluation focus is Australia's humanitarian investments in response from September 2015 to 30 June 2017. Three evaluation questions were agreed with the consultant:
 - Was Australia's humanitarian assistance to affected populations in the PNG El Niño drought appropriate, timely and effective?
 - Was Australia's humanitarian assistance to areas of protracted drought well planned and efficient?
 - How and to what extent did Australia's response to El Niño in PNG contribute to resilience and national and local leadership and capacity?
2. The methodology included a desktop review of documents, interviews with internal and external stakeholders involved in implementing Australia's response, and fieldwork in PNG including stakeholder interviews and meetings with implementing partners in Port Moresby, Lae, Mt Hagen, Goroka, Alotau and Kiunga, and visits to affected communities in Tambul (Western Highlands), Henganofi (Eastern Highlands) and Oksapmin (West Sepik).

Responses to El Niño impacts

3. By early April 2015 climate scientists, including from the Australian Bureau of Meteorology, were reporting on the likelihood of a severe El Niño event, moving from the eastern Pacific westwards. In fact, there was reduced rainfall in many areas of PNG from April 2015 and a major drought subsequently took hold. Reduced cloud cover in high altitude locations in July-August led to damaging frosts. The impacts on the rural population included reduced access to clean drinking water and staple foods and resultant health problems. Although there are no accurate statistics, it is likely there was an increase in all-causes mortality because the health status of many of those affected would have deteriorated making them more vulnerable to morbidity and mortality.
4. The PNG Government response was relatively quick in terms of conducting a broad needs assessment and making initial procurements of rice; but it was unconventional. The rice was channelled through MPs with little reference to the National Disaster Centre or sub-national authorities, and there was a paucity of information about what was distributed where and when.
5. Given the high underlying wasting rate and anecdotal reports of drought related mortality, rapid food security and nutrition assessments as per SPHERE standards should have been undertaken. Appropriately, Government took the lead, mounting essentially crop damage assessments, but this left little room for UN and donors to mount standardised assessments. In hindsight, there should have been a concerted effort to do so because in their absence uncertainty remained about the seriousness and specificity of El Niño impacts through the fourth quarter of 2015 and into 2016.
6. Despite the early warning that the 2015 El Niño may be more severe than 1997-98, it took DFAT some months to focus on the crisis and along with other donors the bulk of assistance was delayed until 2016. Contributing factors included the slow release of the Government assessment reports and their lack of specificity; the decision of the PNG Government not to request assistance; and the lack of information about the scale and distribution of Government procured rice.
7. The Australian Government was the largest donor expending approx. A\$8 million (\$7,984,174 including \$5,464,174 from the PNG Program and \$2,520,000 from HPD Canberra). The four largest investments in the 'package' (80% of the total) included funding to: a) CARE, Oxfam and World Vision for WASH, public health, and agricultural recovery and resilience building activities in the Highlands; b) logistics support to airlift government rice to Oksapmin in West Sepik Province, and to ship rice donated by the Ok Tedi Development Foundation to Western Province and then airlift some of this rice to Morehead and Bamu; c) the Church Partnership Program mainly for recruiting and paying the salaries and costs of disaster response coordinators; and d) the National Agriculture Research Institute mainly for planting material and seeds for agricultural recovery and resilience.

Planning and overall efficiency

8. DFAT's planning is rated **3** *Less than adequate quality*. While DFAT maintains contingency and scenario planning for disasters, the contingency planning for an El-Niño scenario in PNG was inadequate. When Post put together assistance options in August 2015, the process used to engage across the department did not effectively test assumptions nor achieve a balance between diplomatic and humanitarian imperatives. There was insufficient analysis by DFAT of the likely protection, gender equality and disability inclusion constraints. There was insufficient analysis by DFAT of the likely protection, gender equality and disability inclusion constraints.
9. Post's initial plans assumed the PNG Government would request assistance and that the NDC would be willing to host Australian specialists, initially to help with assessments. Based on historic experience, both should have been treated as significant risks. A proper planning process would have addressed the 'strong resistance to assistance' scenario well in advance.
10. Efficiency is also rated **3** *Less than adequate quality*. 80% of DFAT funded drought response activity was undertaken from January 2016. Most significantly there were bureaucratic delays finalising Humanitarian Partnership Agreement (HPA) funding. It was discussed from September 2015 but funds were not remitted to the NGOs until late January 2016.

Appropriateness and effectiveness

11. From a diplomatic risk perspective Australia's assistance is rated **5** *Good quality*. The objective was to support a GoPNG led response and ensure that GoPNG was accepting of the range of interventions DFAT offered. DFAT was able put together a package of assistance that was indeed acceptable to the Government in a highly political and sensitive environment.
12. From a leadership perspective (vis-à-vis other actors) Australia's contribution is rated **4** *Adequate quality*. DFAT was an engaged actor and supportive of the UN R/HC and a very significant donor. According to UN figures Australia contributed 23% of the total international contribution.
13. From a humanitarian advocacy perspective Australia's humanitarian response is rated **3** *Less than adequate quality*. The Government of PNG response was channelled mainly through local MPs. Australia did not advocate for a more transparent, effective and equitable Government response. Funded partners found it difficult to address equity, protection, gender, or social inclusion, in part due to safety concerns.
14. From a community perspective, the contribution is also rated **3** *Less than adequate quality*. The assistance received by affected communities was generally very late, generally excluded food, and the rice that was airlifted by Australia was only enough cereal for an average 11 days per person.
15. From an investment performance perspective Australia's contribution is rated **4** *Adequate quality* overall. The majority of investments are rated 'above the line' i.e. *Satisfactory* and in terms of money expended, 60% related to investments rated *Satisfactory*. Although the overall rating can't be an averaging exercise, the delays, limitations and weaknesses identified in this evaluation are not sufficient to warrant an overall rating 'below the line' i.e. *Less than satisfactory*. There is nothing in the 'package' that clearly should not have been funded. There was some innovation (support for church coordination) and some opportunities were seized (logistics support).

Table 1: El Niño response investments, quality ratings and expenditure (in order of commencement)

DFAT investment	Appropriate-ness	Effective-ness
1. AHC Operations Team monitoring and assessment visits (\$50,000)	4	4
2. Geoscience Australia remote sensing and drought mapping (\$310,000)	4	4
3. National Agriculture Research Institute food security/resilience (\$918,000)	4	3
4. World Vision WASH assessment (\$473,917)	4	2
5. Australian Civilian Corp logisticians deployment and subsequent logistics support for food relief West Sepik and Western Provinces (\$1,560,041)	5	4

6. Church Partnership Program coordination support (\$1,027,778)	5	4
7. Australian Nat. University Enterprise (crop assessment advice) (\$121,228)	4	4
8. Christian Health Services water security (\$173,211)	3	3
9. National Department of Health medical supplies (\$500,000)	Not rated	Not rated
10. CARE, Oxfam & World Vision WASH, Public Health, Nutrition, Resilience/Food Security investments in the Highlands (\$2,850,000)	5 and 3	4 and 3 ¹

16. Effectiveness ratings for humanitarian investments have to focus more on results than intent and timeliness is typically critical. Substantial delays in the 2015 El Niño response make it impossible to justify a rating of more than 4. *Adequate quality* for the NGO/FBO investments 6 and 10 above. This is notwithstanding the impact of the Government not requesting assistance etc., and for the NGOs concerned notwithstanding that the delay in HPA funding was not of their making.
17. Humanitarian outcomes were also taken into account in rating the effectiveness of rice distributions facilitated by DFAT logistics support, most notably the finding that the rice was only enough for an average 11 days per person. This is notwithstanding that DFAT was only assisting.
18. Lack of evidence is a factor in the effectiveness ratings for investments 1-4, 6 and 10 above. This includes for example insufficient evidence presented of the utilisation of GA products to warrant a higher rating, and the lack of evidence that CHS effectively drought-proofed health facilities.
19. Design has been taken into account in rating appropriateness, specifically where there was inadequate attention to feasibility. This includes the feasibility of NARI and partners bulking adequate quantities of planting material to assist farmers recover, and the feasibility of NGOs changing practices and behaviours and building resilience, with limited time and resources.

Contribution to resilience and national and local leadership and capacity

20. Contribution to longer-term resilience is rated **3** *Less than adequate quality*. Longer-term resilience of vulnerable areas and groups to future drought and frost episodes was not meaningfully enhanced. Building resilience is a long-term endeavour and although relevant initiatives were started by NGOs with humanitarian funding, there was no provision to extent these into development programming.
21. The contribution to local leadership and capacity is rated **4**. *Adequate quality*. There was good cooperation between DFAT's Operations team, ACC personnel and funded partners on the one hand and some provincial and district management personnel on the other, which was supportive of their leadership. CARE's package of disaster management training to local officials at the ward, LLG, district and provincial levels was reportedly well received.
22. There was no contribution to national leadership or capacity. The Department of Prime Minister and the National Executive Committee coordinated and managed GoPNG relief and no opportunity was provided for Australia to assist.

Recommendations to DFAT

These are the more important recommendations – a complete list (of 18) appears in the report.

23. It is recommended that DFAT develop by mid-2018 broad contingency plans for assessing and responding to the human impacts of future slow onset disasters in PNG, including in circumstances where the Government: (i) requests Australian or international assistance to mount a large-scale multi-faceted response and ii) does not request Australian or international assistance despite the risk of increased morbidity and mortality and an apparent need for assistance.
24. Once a decision is made to respond to a slow onset disaster in PNG it is recommended that DFAT apply a formal (but efficient) planning process. The plan should include a clear statement of options, assumptions and risks to facilitate input from relevant stakeholders in DFAT. The plan should address both diplomatic and humanitarian imperatives and risks and seek to resolve any

¹ There are separate ratings for investment *response* elements on the one hand and *recovery & resilience* elements on the other.

tensions between them. DFAT should develop a format for such a plan and SOPs for such a planning process. If something is already in place it should be reviewed to determine if it is fit for purpose in light of this recommendation.

25. In concert with other donors it is recommended that DFAT encourage the Government of PNG to formally agree thresholds and standard operating procedures with humanitarian partners for standing up a high-level PNG inter-departmental technical working group for rapid disaster assessments which includes representation from humanitarian partners.
26. In any future slow onset emergency in PNG affecting water and food security where there are reasons for concern about impacts on malnutrition and mortality it is recommended that DFAT join with other donors in advocating for the conduct of rapid food security and nutrition assessments as per widely accepted international standards e.g. SPHERE.
27. It is recommended that DFAT advocate for the replacement of the phase categorisation commonly used in 1997-98 and again in 2015-16 to assess food supply in Papua New Guinea with an internationally accepted food security standard that more broadly encompasses access to food to provide a more accurate methodology for estimating emergency food aid needs. Consideration should be given to Integrated Food Security Phase Classification (IPC), recognising that this would require a substantial investment by the PNG Government and donors.
28. It is recommended that DFAT embed longitudinal data collection and analysis on livelihoods and community level resilience and vulnerability to ENSO events in suitable DFAT development and/or AHP programs that have reach into vulnerable LLG, to complement and ground-truth other sources of early warning information while also informing long-term resilience programming, planning and policy.
29. It is recommended that DFAT strengthen its appraisal processes to provide more rigour in critiquing the feasibility of:
 - a. the recovery and resilience building components of proposed humanitarian activities (e.g. for agricultural recovery a proposal to bulk and distribute large quantities of planting material, for water security a proposal to drought-proof health facilities)
 - b. the behavioural change or adoption expectations of proposed humanitarian activities (e.g. changing hygiene practices or adopting climate smart agriculture).
30. If more time, resources and/or expertise are realistically required to realise resilience objectives and/or the changed behaviours or practices envisaged than is feasible with humanitarian funding alone, DFAT should add development funding and if this is unavailable be wary of proceeding.

Evaluation purpose, scope and methodology

This report presents the results of an evaluation of the Australian Government's response to the 2015 El Niño drought and frosts in PNG conducted by an independent consultant mainly in August 2017.

Australian Government response to El Niño drought and frosts in PNG	
Investment number	INL847
Total value in AUD	\$7,984,174
Investment start date	10 September 2015
Investment end date	30 June 2017

Purpose of the evaluation

The Terms of Reference (ToR) presented in Annex 1 provide that the purpose is to assess whether Australia's response to El Niño in PNG was effective, efficient and appropriate. The ToR state that the findings will inform future responses to El Niño events and disaster risk reduction programs in PNG.

Scope of the evaluation

The evaluation focus is Australia's humanitarian investments in response to El Niño in PNG from September 2015 to 30 June 2017. The evaluation is tasked to consider individual investments/activities as well as the package of Australian support as a whole. The evaluation assesses:

- the appropriateness and relevance of Australia's support
- the effectiveness and efficiency of Australia's support, including effectiveness in mainstreaming or targeting gender equality and women's empowerment
- whether the support reinforced local and national leadership and capacity.

Evaluation questions

Three evaluation questions were agreed with the consultant and specified in the ToR:

1. Was Australia's humanitarian assistance to affected populations in the PNG El Niño drought appropriate, timely and effective?
2. Was Australia's humanitarian assistance to areas of protracted drought well planned and efficient?
3. How and to what extent did Australia's response to El Niño in PNG contribute to resilience and national and local leadership and capacity?

Sub-questions developed by the consultant are included in the final ToR.

Methodology

The methodology included:

- Review of documents specified in the ToR and others gathered by the consultant. See Annex 2.
- Interviews with internal and external stakeholders involved in implementing Australia's response (including DFAT desk and post, delivery partners, other donors, UN agencies, and relevant representatives from the Government of PNG). See Annex 3.
- Fieldwork in PNG (25 days), which included stakeholder interviews and meetings with implementing partners in Port Moresby, Lae, Mt Hagen, Goroka, Alotau and Kiunga, and visits to affected communities in Tambul (Western Highlands), Henganofi (Eastern Highlands) and Oksapmin (West Sepik). All locations were decided in consultation with Post, considering the evaluation's purpose as well as security and cost. See Itinerary, Annex 4.
- Data analysis and synthesis of findings into an evaluation report suitable for publication.

The primary limitation was limited access to the affected population (a function of cost). Visits to Tambul (Western Highlands), Henganofi (Eastern Highlands) and Oksapmin (West Sepik) were invaluable but they by no means represent a sample. The lack of evidence for reported results in partner reporting was also a significant obstacle. Some NGOs said they couldn't test final results because this would only be evident after completion of the project. This is a design problem for which the NGOs concerned and DFAT both need to take responsibility. The simple solution would be to extend projects for longer for the express purpose of testing results e.g. whether planting material had survived or climate smart agricultural practices had been adopted.

DFAT's standard rating scheme is used in this report (see following).

Less than satisfactory		Satisfactory	
1	Very poor quality	4	Adequate quality
2	Poor quality	5	Good quality
3	Less than adequate quality	6	Very high quality

The evaluator, Bernard Broughton, is a very experienced independent consultant specialising in humanitarian response, contracted through the Aid Advisory Services Panel. IOD PARC Australasia is the managing contractor providing oversight and quality assurance of the consulting input. The evaluator's roles and responsibilities are specified in the ToR. The evaluator was supported by DFAT officers in Port Moresby who provided local context for the evaluation. The primary audience is DFAT senior management and senior program managers.

The 2015 El Niño and impact assessments

El Niño warning

1. By early April 2015 climate scientists, including from the Australian Bureau of Meteorology, were reporting on the likelihood of a severe El Niño event, moving from the eastern Pacific westwards. Indeed, there was reduced rainfall in many areas of PNG from April 2015 and a major drought subsequently took hold through 2015. Reduced cloud cover in high altitude locations in July-August 2015 led to damaging frosts. The impacts on the populations affected included reduced access to clean drinking water and food and resultant health problems. On 22 December 2015, the PNG National Weather Office declared that the peak of El Niño conditions had been reached.
2. The Australian High Commission in PNG reported to Canberra on 14 August 2015 that there was a growing consensus among relevant PNG and development agencies in Port Moresby that the 2015 El Niño event in PNG was likely to surpass that experienced in 1997–98. Despite this assessment, it took DFAT some months to mobilise resources in the field in respond to the El Niño impacts, due DFAT contends to prevailing political and logistical constraints. Contributing factors certainly included the slow release of the results of a Government of PNG assessment, a lack of consensus on the seriousness of the situation, and the absence of a Government of PNG request for international assistance. Most donors including Australia provided the bulk of their assistance in 2016 i.e. late. Please refer to Annex 5 *Timeline of Events 2015-16*.

Assessments conducted

3. Assessments of staple crop losses, water shortages and health impact were conducted in 2015 by the Government and by several churches and NGOs, which indicated that hundreds of thousands of people had been severely affected by drought and frosts and required assistance, most notably in the highlands, with water the early priority followed by food aid. While helpful information was generated, a lack of clarity and specificity persisted. In February 2016 Oxfam reported: "There continues to be no clear coherent countrywide picture of the impact of the drought, or the

response to date in sufficient detail to enable truly effective targeting of response activities and no clear picture at any level of government of food relief activities.”¹

4. The Government assessments conducted in August-September and released in late October 2015 specified provincial estimates that total 1.33 million people in need of food assistance (generally for three months).² The cereal component alone of a standard ration for this population for this period would have required approximately 48,000 tonnes of rice or equivalent.³ This calculation is presented to make the point that the sweeping estimates made of crop damage and relief requirements generated tonnages that could not realistically be funded and distributed.
5. In part the problem was that the assessment methodology used tends to over-estimate food aid requirements. The categories focus on food in gardens and famine foods and do not unambiguously require consideration of access to food by other means e.g. obtaining food from wantoks, drawing on savings to buy food, or obtaining assistance from employed relatives.
6. In any event, the Government assessments and recommendations informed but did not drive the Government response. Rice procured by Government was channelled through local MPs who did not liaise with or report progress to the NDC or provincial and district administrations.
7. Non-government actors continued to try to determine needs for themselves and at the end of 2015 researchers from the ANU conducted a meta-analysis of the impact of drought and frost based on a range of reports and contacts and estimated that a maximum of 770,000 people lived in locations where food was very scarce (Category 4) or extremely scarce (Category 5).⁴ The majority were in the very high altitude zone (53%), followed by the highlands fringe (35%). The researchers noted that the number of people very short of food was likely to be considerably less than 770,000 as not everyone in an LLG area was similarly impacted. They recommended field checking to clarify actual numbers and set priorities; but this was not undertaken.
8. In January 2016, the UN R/HC reiterated in a DMT meeting that there were insufficient resources to assist all the affected populations and there had to be prioritisation. In the absence of any further relief from the Government, it appears the R/HC was contemplating a UN relief operation. From 28 January to 24 February 2016 WFP in consultation with the NDC conducted a mobile Vulnerability and Mapping (mVAM) survey at the LLG level of districts categorised as 3, 4 and 5 by the Government’s 2015 assessments. The mVAM indicated that 1.31 million people were experiencing “high food insecurity impact” and that 223,700 people were experiencing “severe food security impact” and required immediate food aid. The latter included 162,000 people in five LLG in the Highlands and one in Western Province.⁵ This provided the basis for a WFP-UNICEF intervention.

See further *ANU Enterprises – assessment advice* p 19; Annex 6: *Analysis of assessments*.

Mortality and child malnutrition

All-causes mortality and the impact of El Niño

9. It is likely that there was some increase in all-causes mortality due to the 2015 El Niño, that is, that the health status of many persons deteriorated making them more vulnerable to morbidity and mortality. But such an increase is impossible to quantify. There are no accurate statistics on all-cause mortality (i.e., accurate and timely death reporting in general).
10. There has been an assertion that there may have been an overall increase in deaths in the order of several thousand. But this is based essentially on supposition and there are no means of testing it. Key informants interviewed including church partners commonly responded to this assertion by

¹ Oxfam SitRep 8, 27 February 2016

² Based on the consolidated matrix dated 6 October 2015.

³ More than 1,331,672 people @ 400 grams of rice per day for 90 days

⁴ ‘Estimated impact of drought and frost on food supply in rural PNG in 2015’, R.M. Bourke, Bryant Allen and Michael Lowe, Development Policy Centre Policy Brief 11, January 2016

⁵ 18,700 people in Milne Bay outer islands were added in response to information from the Provincial District Administrator and 43,000 people in other affected pockets around the country were also added.

stating that if excess mortality was that high, they would have learned of it through their networks. Nevertheless, there was a local perception in several areas that there were drought related deaths including remote communities in Western Province and in the Highlands. Some of these deaths may well have been at least partially drought related.

Child malnutrition in PNG and the impact of El Niño

11. In PNG in 2010, the child stunting rate (chronic malnutrition) was almost 50% (the fourth highest in the world) and those moderately or severely malnourished was about 16% (exceeding WHO emergency response thresholds).⁶ It is not possible to satisfactorily determine the impact of the 2015 El Niño against this background. Logically it would be reasonable to expect some impact (increased wasting) but there is a lack of good data to test this hypothesis. WFP stated in its 2016 project document that there was “no data available to illustrate a deterioration in the nutrition situation as a concrete consequence of the drought”. Nevertheless, WFP concluded, based mainly on anecdotal evidence, that there was a clear pattern of escalation in Global Acute Malnutrition (GAM), which would invariably have led to an increase in Severe Acute Malnutrition (SAM) cases.
12. The Nutrition Cluster should arguably have developed a strategy for a coordinated and substantive nutrition response in 2015, seeking funds from leading donors like Australia. Instead there were ad hoc responses implemented mainly by NGOs and including MUAC screening, some limited nutritional support, and some health centre staff training.

See further Annex 7: *Mortality and child malnutrition* for more detail.

Responses to El Niño impacts

Government of PNG response

13. The Government response was quick in terms of initial procurements of rice but it was channelled through MPs with little transparency or reference to the NDC or provincial or district authorities. The NDC submitted a proposal for a three-month targeted drought response (October-December 2015) which included food and a recovery budgeted at PGK 175 million.⁷ But the Government announced in September 2015 that it had instead allocated PGK 20 million (about USD6.5 million) through the Prime Minister’s department to be used to procure rice for MPs to distribute in the districts they represented. The NDC was only allocated PGK5 million. In November 2015, the Government announced the allocation of a further PGK178 million, authorising all 89 districts to use up to PGK2 million from existing (not new) allocations to the District Services Improvement Programme (DSIP) for drought relief.
14. According to NDC records, the total amount of rice purchased with the initial PGK20 million was 2,619 tonnes supplied mainly in Mt Hagen at a cost of PGK 7,750,104.⁸ There is no information to corroborate this and it is unclear when or where it was distributed. Most of the rice procured and warehoused in Mt Hagen remained where it was for several months. Some rice procured in Lae remained undistributed for well over a year. There were several reasons, including that central Government left the logistics of distribution to MPs and provincial and district authorities. There was also fear of conducting distributions that could not serve everybody. NDC noted in a DMT meeting in November that government was “yet to determine the modality of implementation”.⁹
15. Although a large number of affected communities reported receiving some assistance it was publically acknowledged that the Government rice delivered was not sufficient in quantity to address the scope of needs of populations affected.¹⁰ An NDC official accompanying the evaluator

⁶ See [Papua New Guinea Household Income and Expenditure Survey \(HIES\) 2009-2010](#), where the child stunting rate is put at 48.2% (Table 5.14, p. 90). See also [Global Nutrition Report 2016: From Promise to Impact, Ending Malnutrition by 2030](#), where modelling by IFPRI puts the rate at 49.5% (Table A3.2, p. 120)

⁷ DMT meeting 3 November minutes. See also DMT meeting 22 October 2015 minutes and 1 December 2015 minutes

⁸ Included in a table shown to the evaluator by Lassiter Mano, NDC

⁹ DMT meeting 10 November 2015 minutes

¹⁰ Highlands Lessons Learned Workshop facilitated by CARE

said that the practice was to provide a family with 10 kgs (sometimes 20 kgs for a large family) i.e. enough rice for less than one week.¹¹ Several communities reported receiving no relief at all.¹² There were complaints about inequitable MP distributions (some were made, directly to the evaluator in Tambul in the Western Highlands) and Catholic Bishops issued a joint statement “advocating the depoliticisation of the drought response”.¹³

16. It is not known what PGK amount of DSIP allocations were redirected by MPs and administrators to drought relief, or on what was spent.¹⁴ There are anecdotal reports of districts spending authorised DSIP allocations on the transportation of rice for example, but no formal information is available. Authorising all 89 districts to allocate up to PGK2 million on drought response had the effects of: (a) disregarding the Government’s own assessments and the central concept of focusing on 35 Category 4 and 5 districts and focusing initially on the Highlands Region; and (b) spreading the PGK178 ‘allocation’ across all districts and capping each district at PGK2 million. Thus, the most severely affected districts did not have nearly enough funds to buy or distribute relief. Some districts did not have uncommitted DSIP funds they could draw on.

International response

17. Given the high underlying wasting rate and anecdotal reports of drought related mortality, rapid food security and nutrition assessments as per SPHERE standards should have been undertaken in 2015. In the absence of such assessments, uncertainty remained about the seriousness and specificity of El Niño impacts through the critical fourth quarter of 2015 and into 2016. While it was appropriate for the PNG Government to take the lead and mount (essentially crop damage) assessments this had the effect of inhibiting the UN and donors. But in hindsight there should have been a more concerted effort to convince Government of the necessity of accepting technical expertise to ensure assessments provided adequate and credible guidance.
18. Through the fourth quarter of 2015 the UN R/HC expressed increasing concern about unmet needs and in early 2016 CERF funding was considered to enable the UN to respond. WFP then undertook a phone survey to clarify needs (the mVAM) following which the R/HC and UN Country Team agreed on a rapid scale-up of food distributions and nutrition interventions. CERF funding was secured with OCHA’s assistance for a WFP-UNICEF intervention implemented from June 2016. It is fortunate, given the delayed international response, that the affected population was more resilient than had been implied by the original forecasts and assessments, although excess mortality may be debated.
19. FBOs and NGOs received some support from their external networks and donors in 2015 and mounted WASH responses and distributed some food relief, mainly in the highlands, but this was relatively ad hoc and limited in relation to the scale of assessed needs. DFAT did not fund any food relief due to the Government’s initiative to supply rice through MPs. Most FBOs and NGOs did not really get underway operationally until 2016 when more substantial donor funds were available and the opportunity arose to partner with WFP in the implementation of its emergency operation.

Australian Government response

20. The Australian Government expended approx. \$8 million (\$7,984,174). Somewhat more was originally allocated (\$9,272,979). The amounts expended are summarised in the table below. The four largest investments included:
 - A total \$3,323,917 provided to CARE, Oxfam and World Vision for various WASH, public health and nutrition promotion, food security response, recovery and resilience building activities mainly in the Highlands including \$2,400,000 through the HPA.
 - A total \$1,560,041 provided for logistics support including \$76,208 paid to Mission Aviation Fellowship to airlift government rice in store in Mt Hagen to Oksapmin LLG in West Sepik

¹¹ 400 gms x 5 family members x 5 days = 10 kgs

¹² CARE October Update; DMT meeting 19 January 2016 minutes (remarks by NDC); UN RC Office SitRep No 3 22 February 2016; WFP’s first mVAM survey in 2016

¹³ Referenced in DMT meeting 3 November 2015 minutes

¹⁴ DMT meeting 8 March 2016 minutes

Province; \$197,629 paid to Consort Shipping Services to ship rice donated by OTDF to Western Province and \$1,077,736 to Central Aviation to airlift some of this rice to Morehead and Bamu LLGs in Western Province; and \$208,468 for two ACC logisticians.

- \$1,027,778 provided to the CPP mainly for recruiting and paying salaries and costs of disaster response coordinators for each of the seven mainline churches, and an overall coordinator.
- \$918,000 provided to the National Agriculture Research Institute mainly for planting material and seeds for agricultural recovery and resilience.

Table 2: Australian Government assistance in response to the 2015-16 El Niño in PNG

Investments	Expended
Part A PNG Program (in order of commencement)	AUD
Australian High Commission Operations Team monitoring and assessment visits	\$50,000
Geoscience Australia remote sensing and drought mapping maps	\$310,000
National Agriculture Research Institute food security/resilience	\$918,000
World Vision WASH assessment	\$473,917
Australian Civilian Corp logistics specialists (reimbursable costs only)	\$88,468
Church Partnership Program (CPP) coordination support	\$1,027,778
Australian National University Enterprise crop assessment advice	\$121,228
CARE WASH and agricultural resilience project	\$450,000
Christian Health Services (CHS) water security	\$173,211 ¹⁵
National Department of Health medical supplies	\$500,000
Logistics support airlift food relief to Telefomin District	\$76,208
Logistics support ship food relief to Western Province	\$197,629
Logistics support airlift food relief within Western Province	\$1,077,736
Sub-total	\$5,464,174
Part B HPD Canberra	AUD
CARE & Oxfam WASH, Public Health/Nutrition, Agricultural Recovery/Resilience	\$1,650,000
World Vision WASH, Food Security/Livelihoods	\$750,000
Australian Civilian Corp logistics specialists (salaries and per diems only)	\$120,000
Sub-total	\$2,520,000
Total	\$7,984,174

Evaluation Question 1: Was Australia's humanitarian assistance well planned and efficient?

Contingency planning

Rated 3. *Less than satisfactory quality*

There was no contingency plan in place for the 2015 El Niño and when a package of assistance was being put together in August 2015 there was no formal planning process to engage more widely across the department and test assumptions and risks (including humanitarian risks). Initial ad hoc plans were predicated on a Government of PNG request for assistance (initially with needs assessment) and the willingness of the NDC to host several Australian specialists (including to assist with assessments). Better planning processes would have addressed the alternate 'not receiving a request for assistance' scenario and included a strategy for advocacy that was not incompatible with diplomatic imperatives.

¹⁵ Post allocated \$500,000 but only \$173,211 (PGK 433,028) was spent

21. Post cabled Canberra on 14 August 2015 that the potential impact of the 2015 El Niño event raised the need for 'more detailed contingency planning'. This was not followed up and indeed there was no contingency plan to work with. One should have been developed in 2014 when an El Niño impact was thought very likely, and updated for 2015. This planning should have considered scenarios including how to respond (and finance it) if the Government did not request assistance, and how to engage with Government if NDC was not given the lead. Neither were unlikely. As it happened there was no request for assistance and the Prime Minister's Department and National Executive Committee took charge effectively sidelining the NDC and the Disaster Management Team co-chaired by NDC and UNDP, effectively dis-engaging the international community including Australia. To compound the difficulty of engaging, responsibilities were decentralised down to provinces and districts, including at the district level to MPs.
22. Post's cable of 14 August 2015 also raised the need 'for further assessment'. AHC pre-emptively offered to fund an assessment mission to get more information on the impact of the El Niño, confident at this point that the NDC would present a concept note for such an assessment with a request for funding, and that NDC would be agreeable to having an AHC humanitarian manager and an AHC designated agricultural/rural expert participate. It did not play out this way and the NDC was sidelined, but even so the NDC formally requested development partner participation in the Government assessments. For reasons unknown to the evaluator, bilateral donors including Australia did not offer to participate/assist.
23. In anticipation of the Government assessments clarifying need and a formal request for assistance the AHC developed an initial package of assistance which included: (i) mapping the impact of the drought (Geoscience Australia), (ii) conducting a WASH assessment (World Vision), (iii) advising on logistics of a relief operation (ACC), and (iv) providing planting material and seed to farmers (NARI). The intended humanitarian outputs and outcomes of the package were not articulated and there was no process designed to engage widely within the Department and test assumptions.
24. There was speculation for about two months from August 2015 as to whether Government would request assistance. In the absence of a request DFAT finally sought diplomatic acceptance of Australian Government assistance by approaching the Chief Secretary to Government, who endorsed some of the initial assistance proposed as well as the provision of limited logistics support to ship and airlift rice. By end October 2015 the AHC had put in place funding agreements with NARI (planting material) and World Vision (WASH assessment). The AHC's focus then shifted to Western Province and facilitating the delivery of rice procured by OTDF.
25. Cables indicate that through August and September 2015 the AHC believed that the drought remained within PNG's capacity to respond, and that Australia would only need to provide targeted assistance, initially with the assessment. It was apparent by the end of October however that the Government was in fact poorly prepared to respond. It is noted that Australia would have found it difficult to respond to a request from PNG to help mount a large-scale relief operation involving (say) over 3,000 tonnes of food aid (similar to 1997-98). An unlikely scenario perhaps but it should have been considered just in case. It would have required agreement to use ADF heavy lift capacity to position food relief at staging hubs for onward commercial transport.

Efficiency

Rated 3. *Less than satisfactory quality*

This rating is primarily due to bureaucratic delay in making HPA funds available to NGOs, and the relatively slow response overall. Over 80% of funded drought response activity was undertaken in 2016-17, indicative of a slow response.¹⁶ Funding was however expensed well within budget.

26. There were bureaucratic delays in funding NGOs through the Humanitarian Partnership Agreement (HPA), which is designed to release funds within 72 hours of a funding announcement. HPA activation was expected from October 2015 and occurred in mid-November. Concept notes

¹⁶ Calculated by assuming that the \$8 million was expensed more or less evenly from month to month during the implementation period of each investment (in which case approx. \$6.5 million would have been expensed in 2016-17).

were submitted on 16 November and funding quickly agreed. NGOs produced their Eight Week Implementation Plan by 27 November. But funds were not remitted by DFAT until late January 2016. Related ANCP funding was approved earlier but NGOs implemented these from mid-January 2016 alongside HPA funded activities. It is anticipated that the Australian Humanitarian Partnership, which has replaced the HPA, will be more responsive to slow-onset crises.

27. DFAT spent \$76,208 airlifting 11 tonnes of rice from Mt Hagen to Oksapmin LLG in Telefomin District, which is nearly \$7,000 per tonne or \$7 a kilo (dwarfing the \$1 equivalent cost of a kilo of rice). The principal trader at Oksapmin airstrip said he bought a considerable quantity of the rice landed by DFAT - not a bad thing if people exchange it (in effect) for more kilocalories, but it is nevertheless an inefficient exchange for donors. The prohibitive cost of airlifting food relief in PNG provides a strong incentive for determining how to use cash or vouchers in future.

Evaluation Question 2: Was Australia's humanitarian assistance appropriate, timely and effective?

The overall appropriateness, timeliness and effectiveness of Australian Government assistance is considered from several perspectives below, followed by assessments for each investment.

Diplomatic risk perspective

Appropriateness, timeliness and effectiveness rated **5. Good quality**

DFAT put together a significant package of assistance that was acceptable to the Government of PNG in a highly political and sensitive environment (primarily by approaching the Chief Secretary).

28. The FAQC states that 'the greatest risk to manage was to ensure that GoPNG were accepting of the range of interventions that DFAT offered', and that the 'entire investment/response and position/engagement/implementation was managed around this risk'.¹⁷ The perceived political risk were evidently well managed.

Leadership perspective

Appropriateness, timeliness and effectiveness rated **4. Adequate quality**

DFAT was an engaged actor and supportive of the UN R/HC and a very significant donor.

29. In Post's estimation, Australia provided critical leadership in circumstances where the NDC and DMT were effectively side-lined. This is corroborated by the UN Resident Coordinator's view that DFAT was a particularly supportive donor and played a leading and constructive role under difficult circumstances. DFAT funds the Humanitarian Coordinator position in the UNRC Office. DFAT facilitated WFP's logistic assessments. The FAQC states that: "DFAT was the first to deploy assistance which encouraged a response from others."¹⁸ It is not clear that DFAT was the first to respond. Some NGOs said that DFAT's unwillingness to fund food relief inhibited others.
30. According to UN figures provided to the evaluator, the total international contribution to the drought was USD 21.2 million, of which Australia contributed USD 4.85 million or 22.9%. The UN put the total bilateral contributions at USD 16 million, of which Australia's contribution was 30%. The other bilateral donors and their share of total bilateral contributions were ECHO (22%), New Zealand (21%), the United States (20%) and Japan (6%). Total multilateral contributions (mainly CERF) were USD 4.74 million.

¹⁷ See FAQC INL847 entries for effectiveness and risk criteria

¹⁸ FAQC p 2

Investment performance perspective

Appropriateness and effectiveness rated **4. Adequate quality**

The majority of individual investments (6/10 in Table 3) are rated *Satisfactory* (4. *Adequate quality* or better¹⁹) for both appropriateness and effectiveness. A minority (3/10) are rated *Less than Satisfactory* for appropriateness and/or effectiveness (3. *Less than adequate quality* or lower). The remaining investment is 'split' with one part (response) rated *Satisfactory* for both appropriateness and effectiveness and the other (recovery and resilience) *Less than satisfactory* for both (first entry in Table 3 below). In terms of money expended, 60% related to investments (or part of an investment in one case) rated *Satisfactory* (\$4,494,047 of \$7,484,175). Although the overall rating should not be an averaging exercise, the limitations and weaknesses identified in Australia's investments are not sufficient to warrant an overall rating of *Less than satisfactory*.

31. On balance Australia's investments are rated 'above the line' i.e. *Satisfactory*. This should not be regarded as any more than a bare pass rating. The overall delay in DFAT's response reflected in the less than satisfactory rating for efficiency also impacts on effectiveness. This could be considered a compelling reason for rating the overall effectiveness of DFAT's humanitarian assistance *Less than satisfactory*. The evaluator has not done so because the investments were not rendered wholly ineffective as a result and to be fair it was a difficult political environment and DFAT was an earlier responder than most. A significant weakness with policy implications is the *Less than Satisfactory* rating for NGO resilience building activities. (See further *Contribution to longer-term resilience* on page 20.)

Humanitarian advocacy perspective

Appropriateness and effectiveness rated **3. Less than adequate quality**

The Government of PNG response was channelled mainly through local MPs. Australia did not advocate for a more transparent, effective and equitable Government response. There was a general insistence on blanket distributions with no targeting and funded NGOs found it difficult to address protection, gender equality and disability inclusiveness.

32. Government procured rice was insufficient, a large proportion remained in storage for many months and there were widespread complaints about inequitable distributions. The diplomatic community does not appear to have expressed concern. It is recognised that for reasons unrelated to the El Niño disaster, Australia was not in a strong position to exert diplomatic influence.
33. The FAQC states that DFAT assistance targeted the vulnerable (i.e. vulnerable persons/groups) but local authorities, and in several highland locations safety, dictated blanket distributions.
34. Post could arguably have done more to further the humanitarian imperative without upsetting the diplomatic relationship e.g. funding a timely 2015 assessment of the impact on acute child malnutrition, and the action required, perhaps building on the DFAT funded UNICEF project.

Community perspective

Appropriateness, timeliness and effectiveness rated **3. Less than adequate quality**

Communities were most interested in receiving food assistance (specifically rice which they expect and value as relief). Australian Government assistance did not fund partners to purchase food, and some people expressed frustration when receiving lower priority inputs like water containers. Rice provided with Australian logistic support was very welcome but here the frustration was that it was late and the quantity very modest.

¹⁹ See Rating Scheme page 2 above

35. From the perspective of affected communities, DFAT's contribution (like others) was welcome but late and insufficient. This was the common view expressed in Tambul, Henganofi and Oksapmin. In Tambul opinions were possibly clouded by frustration with distributions of Government rice which were inequitable. Similarly, in Henganofi there was criticism about the failure of NARI planting material and the fact that the storage tank provided for the school was dry because it relied on roof runoff. In Oksapmin there was little other assistance to distract, and people interviewed all said that the rice distributed was very late and only enough for a couple of meals.

Appropriateness and effectiveness of individual investments

36. Here, at the level of individual investments, appropriateness and effectiveness have been rated separately (see Table 3 summary following). In line with international practice, timeliness is included as an aspect of effectiveness.²⁰ Funding to the NDoH for medical supplies is not included because there is insufficient information to evaluate this investment.

Table 3: El Niño response investments and quality ratings (in order of expenditure)

DFAT investment	Appropriateness	Effectiveness
1. CARE, Oxfam & World Vision WASH, Public Health, Nutrition, Resilience/Food Security in Highlands (HPA and ANCP)	5 - 3	4 - 3
2. Logistics support food relief West Sepik and Western Provinces including deployment of ACC logisticians	5	4
3. Church Partnership Program (CPP) coordination support	5	4
4. National Agriculture Research Institute Food security/resilience	4	3
5. World Vision WASH assessment	4	2
6. Geoscience Australia drought maps	4	4
7. National Department of Health medical supplies	Not rated	Not rated
8. Christian Health Services (CHS) water security	3	3
9. ANU Enterprise (technical advice)	4	4
10. AHC Operations Team monitoring & assessment visits	4	4

1. CARE, Oxfam and World Vision response, recovery and resilience projects

Details and ratings
<p>a. CARE WASH and agricultural resilience project</p> <p>Description: Distribution of WASH kits including collapsible water containers, water purification tablets, soap and IEC materials. Some WASH infrastructure repair and construction. ADAPT training was added when DFAT gifted water containers freeing up the budget. Funded by Post (ANCP) but integrated with HPA activities.</p> <p>Locations: Eight districts in Eastern Highlands, Chimbu and Morobe Provinces</p> <p>Duration: Commenced effectively January 2016. Originally for 6 months. Extended to February 2017.</p> <p>Expended \$450,000 (Australian Government also gifted 35,000 water containers)</p>
<p>b. CARE-Oxfam WASH, Public Health/Nutrition, Agric. Resilience/Food Security, Coordination project</p> <p>Description: Joint CARE-Oxfam project with health and nutrition led by CARE and WASH and livelihoods led by Oxfam. Funded mainly from Canberra (HPA funded)</p> <p>Locations: Chimbu, Western Highlands, Eastern Highlands, Enga, Hela, Jiwaka and Morobe</p> <p>Duration: Commenced 13 January 2016, originally to end December 2016. Extended to 30 June 2017.</p> <p>Expended: \$1,650,000 (initially \$1,250,000; \$400,000 added by Post June 2016) CARE was the lead agency and received \$925,000 and Oxfam received \$725,000</p>

²⁰ In humanitarian action, timeliness is most closely associated with effectiveness. See ALNAP Evaluation of Humanitarian Action Guide 2016; Core Humanitarian Standard 2016; and MFAT/DFAT Humanitarian Monitoring & Evaluation Framework for the Pacific 2016.

c. World Vision WASH, Food Security/Livelihoods project
<p>Description: Focused on WASH, and climate smart agricultural training. Funded from Canberra (HPA)</p> <p>Locations: Southern Highlands Province (selected communities in 4 districts), Hela Province (selected communities in 3 districts).</p> <p>Duration: 18 mths. A no-cost project extension from February 2017 to June 2017 to use money left over.</p> <p>Expended: \$750,000</p>
Overall appropriateness
<p><u>Response</u> – 5. <i>Good quality</i>. DFAT funding to the three NGOs was delayed but despite this, many elements of their response remained relevant and appropriate in 2016 and modifications were made to address changed timing. DFAT did not invite NGOs to request funding for food relief. This was understandable given the government’s intervention, but it reduced the relevance of the assistance.</p> <p><u>Recovery</u> 3. <i>Less than adequate quality</i>. The most tangible element was to be the provision of planting material to be provided by NARI. This was very relevant but the plan to multiply (bulk) material at the community level for subsequent distribution was too risky - more attention was required to feasibility.</p> <p><u>Resilience</u> 3. <i>Less than adequate quality</i>. The resilience component relied on several outputs including making available ‘clean’ or more drought tolerant planting material, improving health facility and school water systems and their management, agricultural training, community health and hygiene training, and training health workers in treating malnutrition. Although relevant, the actual investment in time and funds could not logically cause sustained changes in practices and behaviour.</p>
Overall effectiveness
<p><u>Response</u> 4. <i>Adequate quality</i>. Lack of timeliness reduced quality, but the various elements were implemented to a good standard and it would be fair to assume activities ‘made a difference’ in the lives of families (e.g. repairing WASH infrastructure) and in some instances saved lives (e.g. screening 3,000 children for malnutrition and referring 48 for in-patient treatment). CARE and Oxfam stand out for their efforts to ensure women and children benefited from, and were engaged in, response activities.</p> <p><u>Recovery</u> 3. <i>Less than adequate quality</i>. There is an absence of evidence at this level. The key is the planting material and it is doubtful the quantity that ultimately reached farmers had much impact on recovery. Partner reporting suggests community level multiplication was successful but this was certainly not the case in the one site where this was tested for the evaluation (Henganofi). There is also the issue of timing – it appears World Vision material was not available to farmers until late 2016.</p> <p><u>Resilience</u> 3. <i>Less than adequate quality</i>. No evidence is presented for increased resilience or sustained changes in agriculture or health related practice or behaviour. Some infrastructure was provided including improvements to water systems but without ongoing attention these improvements are unlikely to be sustained.</p>

37. Response: The various WASH interventions undertaken by the three NGOs were delayed but still useful in 2016. There is no direct data on effectiveness e.g. impact on water-borne diseases although to be fair this would have been very difficult to collect. Recipients of collapsible water containers and water purification tablets expressed different views on their utility – some positive, some negative. Some aspects of hygiene messaging were evidently resisted e.g. changing practices in relation to the disposal of children’s faeces²¹. An independent evaluation of the CARE-Oxfam HPA project found that the water infrastructure inspected was generally appropriate in design and well implemented but observed that in some instances the attention to existing infrastructure could be improved and that although the hardware was competently installed there could have been a greater focus on the sustainability of the systems.²² World Vision conducted WASH promotion alongside the distribution of the water containers and water purification tablets²³. Under the circumstances, particularly the considerable distraction of the distribution itself, the effectiveness of this messaging is questionable.

²¹ CARE International in Papua New Guinea El Niño Emergency Response Wrap-Up Symposium 21st September, 2016, Port Moresby (report of proceedings), page 7

²² Evaluation of CARE International and Oxfam PNG El Nino HPA Drought Response Project, Peter Chamberlain, October 2016, p 21

²³ See for example World Vision Completion Report, pp 4, 9

38. Screening for malnutrition was still needed in early 2016. Oxfam reported screening a total 3,004 children by project's end with 166 children identified as moderately or severely malnourished (6%), 48 of whom had complications and were referred to provincial hospitals and district health centres²⁴. Training health workers to treat malnutrition and providing nutrition resource kits to health centres was very helpful. Unfortunately, effectiveness is not reported. Immunising children and providing vitamin supplementation was appropriate as was the provision of supplementary food to the families of acutely malnourished children, but again effectiveness is not reported.
39. Providing advice to farmers on how to adapt to the drought and frosts was less relevant and helpful in the highlands by early 2016 than it would have been much earlier. Assistance with coordination remained appropriate throughout and there were some valuable contributions at the provincial level.
40. **Recovery and resilience:** For CARE and Oxfam, the primary element was combining Agricultural Drought Recovery and Adaptation Trainings (ADAPT) with the provision of tools and NARI planting material and procured vegetable seeds. But in principle, it is not feasible to introduce new or improved agricultural practices in such short timeframes and without follow up. It requires a more engaged, longer-term approach. It is understood CARE and Oxfam hoped to complete the remaining modules of agriculture training, but without additional funding this is most unlikely. Health and hygiene training would have had similar challenges and weaknesses. WV agricultural training appears to have been modelled on 'climate smart agriculture' and reportedly included indigenous and natural ways of integrated pest control management, proper farming techniques, sustainable practices in planting crops, and food processing and preservation. WV reported that the training raised awareness, but there does not appear to have been any follow up to actually determine adoption and impact.
41. The provision of planting material was a key recovery activity. CARE and Oxfam report that the bulking of NARI planting material at the community level was successful, at least in Morobe Province. This is encouraging but there were evidently exceptions. In Henganofi in the Eastern Highlands members of the group engaged in ADAPT training and associated with the bulking reported to the evaluator that they had not successfully propagated sweet potato and none had been distributed to members. It was clear on inspection that the cassava was doing poorly after more than eight months (members said NARI's variety is not as good as theirs). The irrigation equipment provided to the owner of the land used for bulking was afraid to use it because group members argued all should have received this equipment. The vegetable seed was useful. World Vision reported challenges with the procurement and distribution of clean planting materials for drought affected communities in Hela and Southern Highlands Provinces, including NARI's difficulty meeting demand. It took several months for NARI to provide material, delaying the food security component of the project.²⁵ It appears material was not distributed until late 2016.
42. The HPA evaluation found that CARE was the most active of all agencies in ensuring a coordinated response in the highlands, despite encountering various difficulties. World Vision made a valuable contribution by chairing the national WASH cluster.

For more detail see Annex 8: *Response, recovery & resilience investments*

2. Logistics Support

Ship and/or airlift Government and OTDF rice
a. West Sepik Province
<p>Description: Contracted Mission Aviation Fellowship to airlift Government purchased rice from Mt Hagen to Oksapmin airstrip</p> <p>Location: Oksapmin LLG, Telefomin District</p> <p>Duration: January-February 2016; Expended: \$76,208; Airlifted: 11 tonnes</p> <p>Household ration: Theoretically 10 kgs but reportedly considerably less</p>

²⁴ CARE International in Papua New Guinea El Niño Emergency Response Wrap-Up Symposium²⁴ 21st September, 2016, Port Moresby (report of proceedings), page 9

²⁵ World Vision Completion Report p 9

b. Western Province
<p>Description 1: Contracted Consort Shipping Services to ship OTDF purchased rice to Western Province Location: From POM for delivery to Daru and other designated locations in Western Province Duration: Feb. and March 2016 (Lahara Chief departed POM 8 March 2016 and unloaded 2 weeks later) Expended: \$197,629; Shipped: 627 tonnes²⁶</p> <p>Description 2: Contracted Central Aviation to airlift OTDF rice to airstrips in Morehead and Bamu LLG Locations: Morehead LLG, South Fly District and Bamu LLG, Middle Fly District Duration: March to July 2016; Expended: \$1,077,736; Airlifted: 219 tonnes Household ration: Theoretically 20 kgs Morehead with a second round for some; 30 kgs Bamu</p>
c. Australian Civilian Corp (ACC) logistics deployees
<p>Locations: Port Moresby and Western Province Duration: Gail Owen November 2015 to 28 March 2016; Ron Hodges November 2015 to December 2015 Expended: \$208,468.</p>
Overall appropriateness
5. Good quality. The provision of logistic support / funding to ship and airlift rice to remote locations was a sound contribution and endorsed by the Chief Secretary. The use of ACC logisticians appropriate.
Overall effectiveness
4 Adequate quality. The logistics were well managed and the rice delivered expeditiously. It proved a helpful intervention. It provided good recognition to Australia (there was some national newspaper coverage of Australia's assistance to air lift rice to Telefomin District). Unfortunately, the supply to affected persons facilitated by DFAT was not timely in relation to peak need and so modest in quantity it was not nutritionally significant (approx. 4.5 kgs of rice per person).

43. As in 1997-98, Australia assisted with air transport to remote locations (through private contractors in 2016 rather than the ADF). In 1997-98 Australia airlifted 4% of total food aid provided in response to the drought from all sources. In 2016 Australia's relative contribution was less (the total amount provided by GoPNG is uncertain). DFAT AHC Operations Team members and two Australian Civilian Corp personnel organised the airlifts and the coastal shipment.
44. *Telefomin District*: A considerable quantity of rice procured by the government in 2015 remained in storage in Mt Hagen, in the absence of means to transport it. In January 2016 DFAT began organising for the airlift of the Oksapmin LLG portion of the 135.44 tonnes of rice allocated to Telefomin District, ultimately paying Mission Aviation Fellowship to airlift 11 tonnes to Oksapmin airstrip in February 2016. The distribution was managed by local councillors. Whether or not this was DFAT's expectation, the councillors did not seek to target and undertook a general (blanket) distribution to a reported 6,000 persons (1,100 households of approx. 5.5 members). Although this should theoretically have yielded a ration of 10 kgs per household (11,000 kgs divided by 1,100) people interviewed by the evaluator in Oksapmin reported that a 10 kg 'bundle' was shared between several households and that they received only enough rice for a few meals.
45. Councillors and other informants in Oksapmin said there was considerable frustration at the time about the long delay and the amount received. Some interviewed in Tekin thought the rice was in response to flooding that had occurred more recently, rather than the more distant drought. A trader with a shop next to the Oksapmin airstrip said many people sold much of their rice because by that time they had their own food. (It was sold for PGK10 per kg but cost about PGK15 landed.)
46. *South and Middle Fly Districts*: In 2015 OTDF purchased 3,100 tonnes of rice for distribution in Western Province. After conducting an assessment mission from 22 December 2015 DFAT agreed to pay for and manage the air transport to remote locations requiring air support. At some point DFAT also identified the need to assist OTDF to continue to ship the rice it had purchased in Port Moresby to Western Province and in February 2016 DFAT contracted Consort Shipping Services to deliver 627 tonnes to Daru and other locations for onward distribution. The two LLG targeted

²⁶ Consort was to have shipped 28 containers on the Lahara Chief but only loaded 20. Consort reported that the containers were overloaded and the vessel could not carry more. The remaining 8 containers were shipped later, it appears incurring further cost.

for the airlifts were Morehead LLG in South Fly District and Bamu in Middle Fly District. DFAT contracted Central Aviation and paid for the airlift of 219 tonnes of the OTDF rice for Western Province. DFAT liaised with OTDF and district authorities and/or FBOs who assisted with distribution upon arrival at airstrips. Distributions were well managed. The food delivered was theoretically a 10 day carbohydrates only ration (@400 gms per person per day). 20% of those in more need receiving a second-round distribution amounting to a further 10-day carb ration.

47. *Nutritional impact*: In total DFAT paid for the airlift of 230 tonnes of rice to serve an estimated 50,769 persons in three LLGs, one in West Sepik and two in Western Provinces (see Annex 9). The rice delivered with DFAT's assistance was virtually the only food aid provided to these LLGs and distributions were generally untargeted (blanket). Assuming correct population data and equitable distributions the 230 tonnes of rice provided an average of approx. 4.5 kgs of rice per person which equates to an average 11 days of the cereal component (only) of a standard ration.²⁷
48. *Timeliness*: The supply of the 230 tonnes of rice would have been further delayed without DFAT's help but from the community perspective delivery was simply very late. Deliveries to Telefomin District were made in February 2016, Middle Fly District in May-June 2016, and South Fly District in March-April 2016 with a second round targeting a smaller number in July 2016.
49. *ACC logisticians*: DFAT originally intended that up to six ACC deployees would to be placed in the NDC. Two were initially accepted but it became plain they were not really welcome and they were based out of the Australian High Commission alongside the Operations team. Their main focus was facilitating the coastal shipment and later remote area distribution of rice donated by OTDF (Western Province). From the AHC's perspective they were indispensable.

3. Church Partnership Program – Coordination support

Details and ratings

Description: Funding to the seven mainline churches through ADRA essentially to facilitate a more coordinated church response and to establish an overall coordination mechanism

Locations: Nationwide; Duration: Designed for 8 mths but ran for 13 mths (1 December 2015 to 31 December 2016); Expended: \$1,027,778. ADRA coordinated and administered the grant.

Appropriateness: Rated **5 Good quality**. Great concept, albeit modest in scope. Post recognised church coverage and access to hard-to-reach areas and funded a coordination platform, leaving it to churches to mobilise their own relief inputs.

Effectiveness: Rated **4 Adequate quality**. Not really operational until 2016, but tangible impact on church coordination and practice. Assessments conducted were narrowly focused on damage to gardens but were nevertheless helpful in confirming or re-prioritising areas of need. Helped the churches play a role alongside other humanitarian actors e.g. in Disaster Management Team meetings. Helped the churches attract funds and partners, which they will now build on. Another flow on effect is increased church attention to DRR and humanitarian response, reflected in many of the churches funding Disaster Coordinators and inclusion of DRR in 3rd phase DFAT's Church Partnership Program.

50. DFAT facilitated the response by taking advantage of the access of the churches in hard-to-reach areas and promoting church coordination. For the churches a coordinated response was quite new and the DFAT support was pivotal. DFAT's funding was mainly for the recruitment and salaries of Disaster Response Coordinators for each of the seven CPP agencies, as well as supporting logistics. This was overseen by ADRA, which appointed an overarching coordinator to manage and coordinate the activities of church partners and the DFAT reporting requirements.
51. Timeliness is a weakness. The first discussions between DFAT and the church agencies took place in July 2015²⁸ but the project was not underway until December 2015 and there were delays in appointing the Disaster Response Coordinators – by March 2016 there were still only 3 in place.

²⁷ The cereal component (e.g. rice) of a standard 2,100 kcal ration is 400 gm per person per day yielding 1,440 kJ. The other 660 kJ should come from pulses and oil or a reasonable substitute like tinned fish.

²⁸ John Hosea Baptist Union Mt Hagen

52. The Disaster Response Coordinators (DRCs), led by the overall coordinator Matthew Kanua, invested a considerable amount of their time and energy in conducting food needs assessments. This provided DRCs on the job exposure in the conduct of assessments. ADRA reports that the CPP Team completed twelve food needs assessments in category 4 and 5 areas (one of these predated DFAT funding). Clearly several of the assessment reports were helpful in understanding the effects of El Niño and needs. Dr Mike Bourke was appointed Technical Advisor to the CPP El Niño Drought Response Program and guided the assessments conducted in 2016.
53. The churches were interested in responding to food shortages but found it difficult to obtain funding for food in large part due to the national government's claim that it was providing food relief to those in need.²⁹ So while the assistance with coordination was helpful most churches did not have substantial resources to coordinate until they became involved in WFP distributions in mid-2016. WFP was very positive about the role the churches played in its emergency operation: "WFP's relationship with churches and their social networks was used to establish its 'social license' to operate, and allowed WFP and partners to move freely across impacted areas and provide beneficiaries with information on the general distributions before they took place."³⁰
54. ADRA's Completion Report includes several lessons which should be borne in mind by DFAT. These include being careful not to place unrealistic expectations on the willingness and capacity of the churches to coordinate.³¹ While there is considerable potential to rationalise, the churches remain different entities with different capacities and in some cases different priorities.

4. NARI - Strengthening the capacity of communities to cope with El Niño impact

Details and ratings

Description: The National Agricultural Research Institute was engaged support recovery and resilience by supplying planting material and seeds together with information and training

Locations: Most affected districts and communities in the Highland Region rated as category 3, 4 or 5 on the drought severity scale

Duration: Project designed August 2015, officially commenced 16 October 2015, amended 16 December 2016, later granted a 3 month no cost extension and finally completed 31 March 2017.

Expended: \$918,000 (NARI also approved to spend \$102,000 from a previous Grant Agreement)

Appropriateness: Rated **4 Adequate quality**. Relevant to recovery and resilience objectives to engage NARI to provide planting material, information and training. At appraisal, DFAT advisors questioned NARI's capacity to deliver and DFAT narrowed the scope of the project. NARI's capacity and intent were still later found wanting however.

Effectiveness: Rated **3 Less than adequate quality**. NARI's most critical project objective was '*Improved food supplies within 3-4 months after rainfalls resume*'. This was not addressed in NARI's Completion Report. It is clear that material was provided much later than planned and it is doubtful the material ultimately provided (after multiplication) significantly improved production (recovery) or the drought or frost resistance of material in production (resilience). NARI has no idea about survival rates of planting materials (despite the allocation of about 15% of project budget to M&E).

55. The major focus of the DFAT funded project was facilitating the recovery of drought and frost affected gardens by multiplying and distributing clean planting materials and seeds for staple crops. Theoretically the project was implemented in 2 stages - the first focusing on the supply of early maturing crops (sweet potato, Irish potato, corn, vegetables and beans/peas) and the second focusing on the supply medium maturing crops (cassava, taro and Banana).³² To an unknown extent NARI also intended providing more drought and frost resistant planting material and seed stock i.e. not just 'clean' material. To achieve all this NARI regional centres were strengthened to produce larger amounts of priority crops, including improvements in water supply.

²⁹ Activity Completion Report executive summary

³⁰ Communication from Ramaswami WFP Bangkok

³¹ Completion Report p 10

³² Activity Completion Report p 4

56. NARI reports providing its first planting material and seeds to partners in February 2016. The original plan was for NARI to support partners in the further multiplication of seeds and planting materials in communities where NARI had existing networks and partnerships, including where necessary setting up basic multiplication infrastructure. NARI did not provide this level of support to partners for community multiplication. The Fresh Produce Development Agency (FPDA) and Department of Agriculture and Livestock (DAL) were not called on to assist.
57. It is unclear if conditions were conducive for multiplication when material and seed arrived, or what survived and what farmers finally received. NARI indicated at interview that material and seed was sometimes provided when there was a lack of rain but that if there were running creeks water could be fetched from there. There are indications that multiplication at the community level is unrealistic given the difficulty of securing suitable land.
58. The central problem with NARI's reporting is that while impressive quantities of planting material and seeds are referred to this is essentially an input and multiplication, final propagation and overall timeliness are not reported. In Henganofi members of the group that had received ADAPT training and who were also involved in multiplication said they received planting material and seed late in 2016 and that due to the inappropriate type and/or poor quality of sweet potato and cassava planting material and the lack of rain they never achieved a result i.e. no material was distributed to members of the group. This may be a singular experience but neither NARI nor its partners conducted post-distribution monitoring so they would not know differently. NARI staff Tambul Research Station confirmed there was essentially no follow up, which is remarkable for a research institute and raises questions how NARI expended its M&E budget from DFAT.
59. The project also included the dissemination of information products and advice on frost coping strategies in high altitude communities and to a lesser extent drought related advice in lower altitude communities (both provided well after the event as it happened). This information and advice appears to have been provided late. Some training was conducted in 2016 for CARE, Oxfam, World Vision and CPP members (all DFAT partners) as well as others. NARI does not have information on the effectiveness of the training and did not follow-up any of those trained.
60. Judging by discussions with staff at Tambul, NARI doesn't have a plan for providing clean planting material on scale. This is presumably a function of the project nature of NARI's activities. On a positive note, through the DFAT funded project NARI has built contacts with partners including churches and collaboration may continue. Evidence of this was apparent in the field.

5. World Vision highland WASH assessment and recommendations

Details and ratings

Description: DFAT provided ANCP funding to World Vision to assess the impact of the drought on water supply in the most affected highland communities and to recommend water supply solutions

Locations: Assessments were conducted in 25 communities in six highland provinces - Southern Highlands, Western Highlands, Chimbu, Enga, Hela and Jiwaka

Duration: Assessments were undertaken from 10 November 2015 - 4 December 2015 and made available in January 2016; Expended: \$473,917

Appropriateness: Rated **4 Adequate quality**. The drought reduced potable water supply which increased water borne diseases. It was relevant and appropriate to fund World Vision, the WASH cluster lead, to propose manageable projects that could be implemented by WASH cluster members. Funding for this was endorsed by the Chief Secretary. It is not rated more highly primarily because there was no buy in from other NGOs and no funding earmarked to implement recommended solutions. There was also a lack of clarity about what was expected (emergency solutions or longer-term sustainable solutions?)

Effectiveness: Rated **2 Poor quality**. World Vision's recommendations were not taken up by other members of the WASH cluster. It is unclear if World Vision implemented any of the recommended projects itself. Timing is an issue - the report was not published until January 2016.

61. World Vision's initial WASH assessment report was dated 8 December 2015³³ but this report was not made public until 8 January 2016 (published to the UN humanitarian site for PNG). This is untimely given that rains had started and there was decreasing urgency around water supply.
62. The initial three-page report did not clearly summarise options and recommendations (although an attached spreadsheet did set out recommended water supply solutions, locations, risks, etc.). World Vision released a more accessible two-page summary later in January 2016 which summarised four recommended water supply solutions:³⁴
- Repair existing water systems - 5 gravity-fed water systems in disrepair identified for repair. Estimated cost around PGK 75,000, including new PVC tanks
 - Construction of new gravity fed water systems - 3 locations identified. Estimated cost around PGK 100,000 for 5km of pipeline
 - Construction of small scale surface water collection, storage and distribution systems – 5 locations identified for conveying water from rivers using a rife pump for storage, distribution. Estimated cost PGK100,000 - 105,000 covering 5km of pipeline and the pumping systems
 - Shallow bore wells or hand dug wells fitted with hand pumps from 10m up to 40m depth - eight sites identified. Estimated cost PGK50,000 per bore well, dependent on the availability of the drilling company in the area.
63. On the face of it the solutions recommended are credible and it appears they were developed in consultation with Provincial Disaster Coordinators, local church groups and communities. However, they are essentially development projects. World Vision's water specialist set out to identify "medium to long term storage and water distribution strategies"³⁵ i.e. sustainable solutions not short-term emergency solutions. The water specialist rightly stressed the need to complement hardware "with intensive community mobilisation strategies that engage community and church groups in taking ownership of water supply systems prior to installation"³⁶. He also stressed the critical role of functional Water Management (WASH) Committees to develop and implement operation and maintenance procedures.
64. Perhaps this is why World Visions recommendations do not appear to have been taken up by other members of the WASH cluster i.e. these were not emergency interventions. Perhaps it is also a function of timing. Perhaps the other WASH cluster members had already determined their own direction on water supply. It is notable that there is no substantive discussion of the World Vision WASH assessment in the WASH cluster minutes.

6. Geoscience Australia - Remote sensing and geospatial support

Details and ratings

Description: GA's role was essentially to provide remote sensing analysis to inform DFAT's planning
Locations: Nationwide; Duration: 6.5 months - 14 October 2015 to 30 June 2016; Expended: \$310,000

Appropriateness: Rated **4 Adequate quality**. It was relevant and appropriate to seek technical assistance from GA to inform planning and policy decisions.

Effectiveness: Rated **4 Adequate quality**. The concept was developed rapidly by GA and products were delivered on time and under budget. Although Canberra reports a map being provided to the Minister in a MinSub to assist with decision-making, information is yet to be provided by Post on utilisation and contribution to its decision-making, so the rating is provisional.

65. There were three anticipated outcomes: (i) rapid remote sensing analysis of high priority districts to assist DFAT in understanding the extent of the drought to inform early stages of the relief effort; (ii) climatic impacts monitored over time to assist DFAT in monitoring the ongoing relief efforts and the transition to the recovery phase; and (iii) geospatial mapping of field assessment

³³ El Nino Drought Preparedness: Technical Assessment for Water, Sanitation and Hygiene, 8 December 2015

³⁴ El Niño Drought Preparedness: Technical Assessment for Water, Sanitation, and Hygiene, January 2016

³⁵ El Nino Drought Preparedness: Technical Assessment for Water, Sanitation and Hygiene, 8 December 2015 (it seems odd that it is described as drought 'preparedness')

³⁶ El Niño Drought Preparedness: Technical Assessment for Water, Sanitation, and Hygiene, January 2016

data and vulnerability indices provided by DFAT and NGOs to assist DFAT in prioritising relief efforts for the 2015 drought and future disasters in PNG. GA reports achievement of these outcomes, including providing: (i) to DFAT in October 2015 Drought Index Difference maps for September and October 2015; (ii) to DFAT over time mapping reflecting drought impacts from September to December 2015; (iii) to CARE and World Vision in October and November 2015 mapping of prepositioned relief supplies and drought severity.³⁷

66. The Drought Index difference maps were compiled using satellite data from Landsat 8, applying a Drought Index and comparing data from 2013, when there was no drought. The Drought Index uses satellite sensors to measure temperature and vegetation stress. An increase in average *temperature* with a decrease in *vegetation 'greenness'* is an indicator of worsening drought.³⁸ One respondents argued that the decreases in vegetation greenness presented were not necessarily indicative of drought. GA acknowledges that not all detected changes are due to drought but maintains that they successfully utilised earth observation data to infer drought conditions.³⁹
67. The FAQC reports that GA's mapping of the drought's impact on water, vegetation and crops was "useful". The AHC has not responded to a request for more information on the utilisation of GA products and particularly their contribution to planning and decision-making. Mapping products were shared with partners by being posted on the UN Humanitarian shared website but it is not known how useful partners found them. The FAQC asserts that the maps influenced policy decisions at senior Government of PNG levels and informed action taken as well as triangulated information coming in from other partners.
68. GA believes the activity proved the usefulness of remote sensing as a tool for hazard mapping in PNG but argues that fully effective, on-going, monitoring in cloudy environments such as PNG requires a 'Data Cube' approach – a considerable investment but more effective and sustainable in the longer term and requiring less preparation and technical input in an emergency.⁴⁰

8. Christian Health Services (CHS) - water security for health centres

Details and ratings
Description: CHS was funded through HHSIP essentially to purchase water tanks for health centres Locations: Hela, Southern Highlands, Western Highlands, Jiwaka, Morobe, East Sepik, New Ireland and Western Province; Duration: 18 December 2015 to 31 March 2017; Expended: \$173,211 ⁴¹
Appropriateness: Rated 3 <i>Less than adequate quality</i> . During the 2015 drought, many health centres closed due to lack of water or relied on trucked water, so this investment was certainly relevant. However, most of the tanks installed rely on run-off from the roof of the health centre and are likely to run dry in a drought.
Effectiveness: Rated 3 <i>Less than adequate quality</i> . There is no report on the impact of the tanks on the health centres. It is presumed to have been beneficial. However, it seems most unlikely that the objective of drought-proofing the health centres could have been achieved. \$1,000,000 was originally allocated for this investment and this could perhaps have been invested in gravity fed or solar systems (connected to the tanks) to drought-proof the health centres.

69. The objective of this investment was to secure water for health facilities so they could continue to function in a drought. To this end, the investment included the installation of 122 moulded polyethylene water tanks at health facilities (and two training institutions) managed by Church Health Services (59 x 5,000 litre tanks and 63 x 9,000 litre tanks). The majority of the tanks installed (108/122) collect water from the roof of the health centre and only a small number (14/122) are connected to a gravity fed system. Under these circumstances, the majority of the tanks are likely to run dry in a drought, certainly in a severe drought like 2015, so although very helpful the investment has not drought-proofed health facilities.

³⁷ Completion Report Remote Sensing and Geospatial Support to PNG, Activity Schedule No. 38 of ROU No. 51172

³⁸ Map interpretation (document) accompanying maps provided by GA

³⁹ Addendum to the Activity Schedule 38 under Record of Understanding (ROU) 51172, Geoscience Australia of the PNG Drought

⁴⁰ Ibid

⁴¹ PGK 433,028

70. In terms of timing the investment did not respond effectively to the 2015 emergency. The tanks were purchased between 30 May 2016 and 23 March 2017. There is no information available to the evaluator about impact on health services. Currently (September 2017) five of the tanks are reported full, two are reported to be empty and there is no information about the remaining 115.

9. ANU Enterprises –assessment advice

Details and ratings
<p>Description: Dr Mike Bourke provided technical / advisory support to CPP El Niño Drought Response Program as well as PNG Government and other stakeholders on drought impacts assessments.</p> <p>Locations: Nationwide; Duration: 150 days from early 2016; Expended: \$121,228</p>
<p>Appropriateness: Rated 4 Adequate quality. It was relevant to procure additional technical advice to support assessments and appropriate to engage Dr Bourke given his expertise and experience. Quality is not rated higher because it was not recognised that his experience and expertise needed to be complemented with food security and nutrition expertise.</p>
<p>Effectiveness: Rated 4 Adequate quality. Dr Bourke was a valued resource person and relied on by many. Quality is not rated higher because the food security assessment methodology and category definition that he and others took as an acceptable standard tends to overstate food aid needs, as it had done previously in 1997/98. Many people commented that in PNG category 4 and 5 are not on a par with Africa suggesting that the categories should not be taken literally e.g. that category 5 does not necessarily mean <i>No food available at all</i>. This begs the question: What do these categories mean?</p>

71. Dr Bourke is well regarded and provided valuable insights. Bourke was able to draw on his extensive knowledge of PNG farming systems and his involvement in conducting assessments of the earlier 1997 drought. The meta-analysis he undertook with Allen and Lowe and released in January 2016⁴² informed subsequent CPP assessments as well as the mVAM telephone surveys conducted by WFP by identifying areas most likely to be at most risk.
72. The assessment methodology and categorisation tends to overstate food aid needs. This issue was raised in the *Review of Australian Assistance to the PNG Drought of 1997-98*. The problem is straight-forward – it is a consequence of the focus on garden food supply and the absence of provision in the category definition and on the assessment form for assessing *access* to food more broadly e.g. buying food with savings or income or requesting help from wage earning family members or from wantoks. While there could be a second pass assessment to overlay an initial crop damage assessment with broader considerations of food access, it would be inefficient.
73. The proof of the contention that food aid needs were overstated is that despite the category 4 and 5 ratings applied to districts and LLGs, and the large quantities of food aid called for, people were more self-reliant than was supposed and survived without effective external assistance. This may be disputed with an assertion of high excess mortality, nevertheless it was always going to be impossible to respond effectively to the numbers assessed as needing food aid, including the upper limit of 770,000 presented in the meta-analysis mentioned above. This required a ‘second pass’ to reduce the number actually needing assistance, that was never conducted on the ground.
74. Dr Bourke assisted in the production of a manual published by the CPP with DFAT funding.⁴³ It incorporates the categorisation used for the 2015-16 drought i.e. based on an assessment of food supply, water supply and health impact. This is a valuable resource, but the assessment form (Appendix 1) should be revised to expand the food security assessment beyond the availability of staples to encompass access to food by all means.
75. While it is pointed out in the manual that some communities will have other means of obtaining food and will cope better than others, and that this should be taken into account when assigning a rating for the severity of damage and its impact on food availability⁴⁴, there is in fact no provision

⁴² Estimated impact of drought and frost on food supply in rural PNG in 2015’, R.M. Bourke, Bryant Allen and Michael Lowe, Development Policy Centre Policy Brief 11, January 2016

⁴³ *Assessing village food needs following a natural disaster in Papua New Guinea* M.B Kanua, R.M. Bourke, B. Jinks and M. Lowe, Australian Government, 2016

⁴⁴ see 3.2 *Estimating the severity of impact indicators*

for this broader appreciation of access to food on the assessment form. The assessment form requires the assessor to circle the rating which best describes the situation and the relevant statements lend themselves to be interpreted narrowly with reference to garden crops e.g. ‘no food available at all’. If left as it is, the categories will lead to similar problems experienced in 2015-16 where some areas were rated category 5 when the affected population had access to food by other means and probably did not require emergency food aid to fill the deficit created by the loss of garden crops. The health impact assessment categories also need to be revisited because it relies too much on unsubstantiated local reports of drought related deaths and unscientific estimates of increases in the crude death rate. The IPC scheme of classification would be a better basis for categorisation, which in the case of food security includes consideration of (garden) supply, (alternative) access, and household utilisation of food (in particular what children are fed).

76. One of the main conclusions of the *Review of Australian Assistance to the PNG Drought* of 1997-98 was: “National emergency assessments require inputs from people who know and understand local food production systems, local health and nutrition issues, social system, and disaster coping mechanisms. They also require people with experience in assessing emergency situations (even if it is experience in other countries) in order to understand the degree of ‘risk’ and the implications of various approaches and recommendations.”⁴⁵ This remains true and one of the challenges for the future is convincing government to accept assistance in developing the capacity and the networks required to undertake more satisfactory needs assessments. Currently there is limited technical capacity in PNG to assess the need for emergency assistance and a poor understanding of the standards that should be applied in addressing assessed needs, evidenced by the blanket distribution of small quantities of rice that are not nutritionally significant.

10. Australian High Commission – Operations team

Details and ratings
Description: Members of the AHC designated as members of Operations team (two to three). Locations: Nationwide; Duration: Throughout; Expended: \$50,000
Appropriateness: Rated 4 Good quality . An Operation team is standard procedure and appropriate. Could possibly have brought in more emergency response experience to bolster the team.
Effectiveness: Rated 4 Adequate quality . The team was effective up to a point. Would have been rated more highly if more critical advice had been provided back to the AHC e.g. questioning the ration size resulting from the small amounts of rice involved in the airlifts. The team appears not to have appreciated standard kilocalorie ration requirements and how this translated into quantities delivered.

Evaluation Question 3: How and to what extent did Australia’s response contribute to resilience and national and local leadership and capacity?

Contribution to longer-term resilience

Rated 3. Less than satisfactory quality
Longer-term resilience of vulnerable areas and groups to future drought and frost episodes was not meaningfully enhanced.

77. Poorer people in isolated communities in PNG remain vulnerable to adverse climatic events. DFAT and funded partners intended to promote long-term resilience and some credible activities were attempted/started but without follow through they are unlikely to amount to much.⁴⁶ The

⁴⁵ Executive Summary, p iii

⁴⁶ See independent evaluation of CARE-Oxfam HPA project by Chamberlain p 29: “... it is important that follow up is provided for these initiatives. The agricultural training must be monitored through in coming months and lessons learned with regard to what works and what does not. The humanitarian assistance training is the first module of an envisaged four part course which deserves to be completed.”

activities included the introduction of more drought-tolerant staples (NARI and partners); agricultural recovery and adaptation training (CARE-Oxfam) and climate smart agriculture training (World Vision); replacing water tanks in church run health centres (CHS); recommending longer-term solutions for community water supply (WV WASH assessment); funding personnel for a more coordinated church response (CPP coordination); health centre staff training in the treatment of malnutrition (CARE-Oxfam); and community disaster management training (CARE).

78. Weaknesses have been identified in earlier sections in relation to each of these. The lesson to be drawn is that building resilience requires more time and resources than is typically available with humanitarian funding. Agricultural adaptation training by whatever recognised method normally incorporates at least one agricultural cycle including marketing (allow 18 months); establishing community ownership and management of water supply systems requires a similar investment; investments in drought proofing health centres and schools is recurring. This is not to suggest that projects promoting longer-term resilience should not be instigated alongside disaster response and recovery, but they must be rigorously designed and funded beyond the disaster response and recovery cycle. In future, resilience to climatic impacts should be conceptually understood within the broader programming context of the Sustainable Development Goals (see partic. SDG 2.4⁴⁷).
79. The UN's Blueprint for Action for addressing ENSO events⁴⁸ is a credible tool for supporting nationally led plans to improve resilience and prepare for El Niño and other climate hazards. PNG is one of five 'early mover' countries. It is a good framework that is linked to the Sustainable Development Goals, connects humanitarian and development action, and integrates six recent international frameworks and agreements.⁴⁹ It recognises that a humanitarian response is not suited to addressing underlying vulnerability. It incorporates several important elements including community level analysis to complement large-scale assessments, a phased framework with thresholds, adaptive social protection system programming, and improved nutrition data. To succeed the Blueprint requires strong national leadership and high-level engagement. Australia has been requested to provide support.

Contribution to national and local leadership and capacity

Rated 4. *Adequate quality*

The contribution to local leadership and capacity was satisfactory. There was good cooperation between DFAT's Operations team, ACC personnel and funded partners on the one hand and some provincial and district management personnel on the other, which was supportive of their leadership. CARE's package of disaster management training was reportedly well received. Circumstances did not allow for a contribution to national leadership or capacity.

80. Constructive cooperation at the sub-national level included for example the good working relations between ACC personnel and the South Fly District disaster management team in the organisation of airlifts to Morehead LLG.
81. CARE's package of disaster management training to local officials at the ward, LLG, district and provincial levels was reportedly well received. Some provincial and district authorities were more receptive than others; some had internal governance issues that prevented substantive engagement. Support for CPP coordination supported the role of the churches during the drought by providing more of a collective voice e.g. in Disaster Management Team meetings. Efforts to form or revitalise WASH committees were not very successful however.
82. The Department of Prime Minister and the National Executive Committee coordinated and managed GoPNG relief and no opportunity was provided for Australia to assist. DFAT was at pains to respect national leadership and only ventured to provide support that was fully

⁴⁷ By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, help maintain ecosystems, strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and progressively improve land and soil quality.

⁴⁸ *Preventing El Niño Southern Oscillation Episodes from Becoming Disasters: A 'Blueprint for Action'*, UN Special Envoys on El Niño and Climate, 30 December 2016

⁴⁹ The Paris Climate Agreement, the Addis Ababa Action Agenda, the Sendai Framework for Disaster Risk Reduction, the SAMOA Pathway, the Midterm Review of the Programme of Action for the Least Developed Countries, and the Agenda for Humanity.

acceptable. For the most part the response was managed from within the Australian High Commission by the Operations team drawing on ACC personnel as surge capacity. DFAT had hoped that it could contribute up to five ACC personnel to the National Disaster Centre (NDC), establishing strong government to government collaboration and contributing to national leadership and capacity, however this did not prove possible.

83. One of the NDC's officers commented that there was 'nothing to show' for two years of DFAT investment through UNDP in NDC capacity building. UNDP was indeed slow to mobilise and recruit the Project Manager (in the last quarter of 2015). The AHC view is that the project has now taken off and that the NDC Director had indicated that he is very happy with recent progress.
84. DFAT has no choice but to address localisation (international commitment) and decentralisation (GoPNG commitment) but it is unclear what this means for the future shape of disaster response and recovery. District Disaster Committees may be the best sub-national entry point given that the district is the focus of decentralisation and the seat of power for MPs. These will be more accountable and effective if they include representation from local government, the local MP, the Red Cross as auxiliary to government, the local churches and the community. But the Government of PNG will need to recommend how to proceed.

Recommendations for DFAT

DFAT advance contingency planning

1. It is recommended that DFAT develop by mid-2018 broad contingency plans for assessing and responding to the human impacts of future slow onset disasters in PNG, including in circumstances where the Government of PNG (i) requests Australian or international assistance to mount a large-scale multi-faceted response and ii) does not request Australian or international assistance despite the risk of increased morbidity and mortality and an apparent need for assistance. Amongst other considerations this advance planning should address:
 - Potential surge capacity requirements and the role of specialised agencies and NGOs
 - Humanitarian response financing
 - Secondment of DFAT development program staff
 - Equity, vulnerability, targeting, protection, gender and social inclusion.

DFAT disaster response plan and process

2. Once a decision is made to respond to a slow onset disaster in PNG it is recommended that DFAT apply a formal (but efficient) planning process. The plan should include a clear statement of options, assumptions and risks to facilitate input from relevant stakeholders in DFAT. The plan should address both diplomatic and humanitarian imperatives and risks and seek to resolve any tensions between them. DFAT should develop a format for such a plan and SOPs for such a planning process. If something is already in place it should be reviewed to determine if it is fit for purpose in light of this recommendation.

Disaster impact and humanitarian needs assessments

3. In concert with other donors it is recommended that DFAT encourage the Government of PNG to formally agree thresholds and standard operating procedures with humanitarian partners for standing up a high-level PNG inter-departmental technical working group for rapid disaster assessments which includes representation from humanitarian partners.:
4. In any future slow onset emergency in PNG affecting water and food security where there are reasons for concern about impacts on malnutrition and mortality it is recommended that DFAT join with other donors in advocating for the conduct of rapid food security and nutrition assessments as per widely accepted international standards e.g. SPHERE.
5. It is recommended that DFAT advocate for the replacement of the phase categorisation commonly used in 1997-98 and again in 2015-16 to assess food supply in Papua New Guinea with an internationally accepted food security standard that more broadly encompasses access to food to

provide a more accurate methodology for estimating emergency food aid needs. Consideration should be given to Integrated Food Security Phase Classification (IPC), recognising that this would require a substantial investment by the Government of PNG and donors.

6. It is recommended that DFAT request the authors of the manual *Assessing village food needs following a natural disaster in Papua New Guinea* published by the CPP with DFAT funding to revise it to ensure it makes provision in the category definition and on the assessment form for assessing access to food more broadly and generally conforms to international good practice.

Community level data collection and analysis

7. It is recommended that DFAT embed longitudinal data collection and analysis on livelihoods and community level resilience and vulnerability to ENSO events in suitable DFAT development and/or AHP programs that have reach into vulnerable LLG, to complement and ground-truth other sources of early warning information while also informing long-term resilience programming, planning and policy.

Recovery and resilience - feasibility and guidance

8. It is recommended that DFAT strengthen its appraisal processes to provide more rigour in critiquing the feasibility of:
 - a. the recovery and resilience building components of proposed humanitarian activities (e.g. for agricultural recovery a proposal to bulk and distribute large quantities of planting material, for water security a proposal to drought-proof health facilities)
 - b. the behavioural change or adoption expectations of proposed humanitarian activities (e.g. changing hygiene practices or adopting climate smart agriculture).
9. If more time, resources and/or expertise are realistically required to realise resilience objectives and/or the changed behaviours or practices envisaged than is feasible with humanitarian funding alone, DFAT should add development funding and if this is unavailable be wary of proceeding.
10. It is recommended that DFAT in future extend humanitarian investments in time expressly to enable partners to conduct field visits to test and report recovery and resilience outcomes.

Water security of health centres

11. DFAT made a substantial investment in response to the 2015 drought by providing water tanks to health centres, but the vast majority of these are dependent on roof runoff and are likely to run dry in a drought. It is recommended that DFAT now consider providing a more secure water supply for these tanks e.g. gravity fed systems.

Funding to NDoH

12. It is recommended that DFAT determine how the funds were utilised and reconcile all expenses.

NARI expenditure of M&E

13. It is recommended that DFAT request NARI to verify its expenditure on M&E.

WFP's mVAM

14. It is recommended that if DFAT provides funding support for WFP's mVAM a request be made to WFP to submit the methodology for peer review by a competent international body or organisation to address any weaknesses, including those identified in this evaluation (refer to Annex 6, Analysis of assessments, *Flaws in assessment methodologies*).

Food aid standards

15. It is recommended that in future DFAT avoid providing logistics support for the delivery of food aid where the likely outcome is the provision of food that is not nutritionally significant in terms of duration. (Suggested that the minimum be six-weeks supply.)

Cash transfers

16. Cash may not be the present in PNG but it is the future and it is recommended that DFAT include PNG in the Cash Transfer Platform (CTP).

Operations team

17. The quality of DFAT's response in PNG depends considerably on the capacity of the AHC Operations team, and it is recommended that DFAT develop SOPs for rapidly augmenting this capacity in preparation for a response to ensure the team has the technical expertise and disaster response experience to effectively lead a response.

Coordination

18. It is recommended that in future large-scale responses in PNG, DFAT be prepared to fund church coordination while providing incentives for collaboration between FBOs, NGOs and the PNG Red Cross e.g. for the purposes of needs assessments and rationalised distribution. These incentives would need to be built into funding agreements.

Annex 1: Terms of Reference¹

Purpose

The evaluation will assess whether Australia's response to El Nino in PNG from July 2015 to present was appropriate, timely, effective and efficient and understand how the assistance provided affected national and local leadership and systems for future drought preparedness and responses.

The findings will inform future responses to El Nino events and disaster risk reduction programs in PNG. Lessons identified through the evaluation will also be used to inform programs addressing situations of protracted drought in the Indo-Pacific region, where appropriate, including by leveraging partnerships with other donors.

Background

In response to the El-Nino driven frost and drought events in 2015, DFAT identified and developed a package of measures to support PNG address growing food security and water quality issues in a number of areas across the country. The package of measures included activities to:

- improve food security by working with the National Agricultural Research Institute (NARI) to propagate and distribute drought resistant seed stock to affected areas
- assess and respond to water and sanitation needs in affected provinces in partnership with NGOs
- target specific support towards vulnerable groups in worst hit areas, in particular, children, women and the elderly using church and NGO partners
- support to the National Disaster Centre and deploy two ACC logistics experts
- provide high quality mapping of the drought's impact on water, vegetation and crops through Geoscience Australia to better inform stakeholder planning and policy decisions
- procurement of additional technical and scientific advice to support relief efforts.

The aim of this support was to support a PNG-led response especially in the absence of no formal request for assistance. The package was implemented over an initial eight month period and was broadly delivered as originally designed. Much of the delivery was managed from within the High Commission by the DFAT Operations team who drew on two Australian Civilian Corps personnel as a surge capacity. DFAT coordinated efforts through the Inter-Agency Disaster Management Team meeting and also shared information widely with partners on the UN Humanitarian Shared Website as well as send regular updates to relevant Government of PNG agencies.

The package of assistance included:

Funding to Papua New Guinea

In Papua New Guinea (PNG), the impacts of the El Niño-induced drought have affected food security in a number of isolated areas in Milne Bay, Western Province and the highlands, where subsistence communities are rebuilding food stocks. This funding was used for a range of activities including:

- helping PNG's National Agricultural Research Institute improve food security for about 500,000 people by providing seeds for drought resistant crops and teaching simple water conservation and irrigation techniques
- supporting NGOs to identify and respond to priority water and sanitation needs across at least six impacted provinces
- providing assistance through the Church Partnerships Program to undertake logistics, assessments, and funding coordination of church groups in hard-to-reach areas including in Western Province so as to support vulnerable groups (children, pre-post-natal women, disabled, the elderly).

Funding to humanitarian NGOs

¹ Finalised by John Francis DFAT Port Moresby on 15 August 2017

Funding was allocated to three NGOs through Australia's Humanitarian Partnership Agreement to support preparedness and response activities in affected provinces.

Scope of the Evaluation

The primary evaluation focus is Australia's humanitarian investments in response El Nino in PNG from July 2015 to present. This evaluation should consider both the individual investment/activity level, as well as the package of Australian support as a whole.

The evaluation should assess:

- the appropriateness of Australia's support;
- the effectiveness and efficiency of Australia's support, including effectiveness in mainstreaming or targeting gender equality and women's empowerment; and
- whether the support reinforced local and national leadership and capacity.

The evaluation should conclude with some forward-looking recommendations for the program, including regarding how Australian support could be improved.

Evaluation Methodology

The methodology will be refined in consultation with the selected consultant. It is likely that the evaluation will include:

- A desktop review of relevant documentation.
- Interviews with internal and external stakeholders involved in implementing Australia's response (including DFAT desk and post, delivery partners, other donors, UN agencies, and relevant representatives from the Government of PNG).
- Fieldwork in PNG (approx. 15-20 days), which will include stakeholder interviews, meetings with implementing partners, visits to locations affected by El Nino, including at least two remote locations (preferably Lae, Kiunga and Goroka).
- Data analysis and synthesis of findings into an evaluation report suitable for publication.

Key Evaluation Questions

The evaluation questions will be refined in consultation with the selected consultant. The proposed questions may include:

1/ Was Australia's humanitarian assistance to affected populations in the PNG El Nino drought appropriate, timely and effective?

- a. To what degree was DFAT drought response programming relevant and appropriate, in terms of i) timeliness and ii) changing needs and context?
- b. Did key implementing partners achieve the results we expected at the investment/activity level? Was this demonstrated in appropriate and regular reporting to DFAT?
- c. How relevant and appropriate was the assistance provided by Australian implementing partners from the perspective of affected communities?
- d. How effectively did Australia influence and inform partner programming, and what was achieved by partners with respect to meeting protection, gender and disability inclusion commitments?
- e. What were the most significant results achieved by Australia's humanitarian programming in PNG during the relevant period?
- f. Were there any unintended consequences and impacts (positive or negative) as a result of our assistance?

2/ Was Australia's humanitarian assistance to areas of protracted drought well planned and efficient?

- a. Was strategic planning optimal?
- b. Were the intended outputs and outcomes for Australia's assistance clearly defined?
- c. What were the barriers and enablers to efficient program design and management?
- d. How well was early warning information utilised and what is the scope for improving early warning in future? (Not sure if this sits well here.
- e. To what extent was Australia's assistance coordinated and complementary (noting the response in Western Province was partially funded by NZAID)? Are there ways in which Australia could share information and coordinate better with other donors and international actors?

3/ How and to what extent did Australia's response to El Nino in PNG contribute to resilience and national and local leadership and capacity?

- a. To what extent did Australian-funded activities promote longer-term resilience of affected communities and support broader recovery and stabilisation efforts?
- b. Did Australia's support reinforce national and local leadership and capacity?

Outputs

- Outputs should align with DFAT's monitoring and evaluation standards, specifically Standard 5 (Independent Evaluation Plans) and Standard 6 (Independent Evaluation Reports).
- An Evaluation Plan that will define the scope of the evaluation, articulate evaluation questions, describe methodologies to collect and analyse data, propose a timeline linked to key milestones, propose a schedule for in-country field work, outline costs and a detailed breakdown of responsibilities of all team members. The plan will be developed in close consultation with the evaluation team and Port Moresby Post.
- An aide memoire that will present initial findings, seek verification of facts and assumptions and discuss the feasibility of initial recommendations. The audience for this document is internal.
- Draft evaluation report (with the additional questions addressed in an annex, as noted above).
- Final Evaluation Report incorporating any agreed changes or amendments as requested by DFAT. The final evaluation report will include an executive summary (of no more than 2 pages), a clear summary of findings and recommendations for future programming (no more than 20 pages) and relevant attachments. This report should be suitable for publishing.

Evaluation Timeline

Indicative dates	Activity	Indicative days
June	Initial document review and introductory brief with team at Post (via phone)	1
July	Write Evaluation Plan (with Evaluation Team)	3
July	Comprehensive document review	3
July	Draft evaluation plan due to DFAT	
July	Evaluation Plan finalised based on DFAT's feedback	2

July	Organise interviews and in-country mission (with assistance from Port Moresby Post)	3
31 July – 25 Aug	In-country Mission (including data collection and analysis)	25
	Travel days	2
25 Aug	Aide memoire with initial findings (for internal DFAT audience)	1
18 Aug – 8 Sept	Further analysis, report writing	10
8 September	Draft report due to DFAT	7
15 September	Receive feedback from Finalise report based on DFAT's feedback	
22 September	Final report due to DFAT	5
Total		Up to 61

Team Composition

The consultant will be the Team Leader for the evaluation. Two DFAT officers from the Australian High Commission will also be observers on the team. The team will be supported by officers in Port Moresby Post and other specialists within DFAT.

The Team Leader (Humanitarian/ Evaluation Specialist) will:

- Plan, guide and develop the overall approach and methodology for the evaluation;
- Ensure that the evaluation meets the requirements of the Terms of Reference and contractual obligations;
- Manage and direct evaluation activities; lead interviews/consultations with evaluation participants;
- Collate and analyse data collected during the evaluation;
- Lead team discussions and reflection;
- Lead on the development of each deliverable;
- Manage, compile and edit inputs from the other team members to ensure high quality of reporting outputs;
- Ensure that the evaluation process and report aligns with DFAT's M&E Standards;
- Finalise a succinct evaluation report.

The observers will assist with local context, background, contribute to assessments and analysis and participate in discussions.

Key Documents

DFAT will make available to the team information, documents and particulars relating to DFAT's humanitarian response to situations of protracted displacement. These will include, but not be confined to, the following documents. DFAT shall make available to the evaluation team any other

reasonable requests for information and documentation relating to the evaluation. The evaluation team is also expected to independently source other relevant material and literature.

- DFAT quality reporting (AQCs, HAQCs, PPAs covering the 2015-17 reporting cycles)
- Draft Humanitarian Strategy for PNG
- Aid Investment Plan for PNG 2015-20
- Any reviews of implementing partners work in drought
- Implementing partner proposals, appeals, funding agreements, reports
- Strategic Partnership Agreements with implementing partners
- Relevant unclassified DFAT cable reporting
- DFAT M&E Standards
- DFAT Humanitarian Strategy (2016)
- DFAT Protection Framework (2013)
- Humanitarian Protection Guidance Notes (Protection, Gender, Disability Inclusion) (forthcoming 2017)
- DFAT's gender and M&E guidance (on the intranet under the aid programming guide)
- <http://collaboration.titan.satin.lo/kmu/gender/Gender%20in%20Development%20DFAT%20Resources/Forms/AllItems.aspx>
- The Gender Equality and Women's Empowerment Strategy <http://dfat.gov.au/about-us/publications/Pages/gender-equality-and-womens-empowerment-strategy.aspx>

Annex 2: Documents reviewed

DFAT

INI847 PNG Drought Final AQC 2017
INJ302 DRM Program Final AQC 2016
INI402 Gender Equality and Gender Based Violence AQC 2016
INK653 Health and HIV Financing Program AQC 2016
INI615 Provincial and Local-level Government Program Final AQC 2016
Aid Investment Plan for PNG 2015-20
Drought Activity list (Excel spreadsheet of DFAT Post and Canberra funding)
Papua New Guinea National Food Security Policy 2016-2025 (draft)
Unclassified cables (3): Early signs of drought (August 2015); PD73L3 (update on assistance to Western Province April 2016); PD80L (drought monitoring visit to the highlands May 2016)
Signed consolidated financial approval 160113
Approval of outcome minute – Western Province air logistics
Approval to approach market minute – Western Province air and sea logistics
Signed minute to commit funding and enter into arrangements CPP
Signed minute to commit funding and enter into arrangements DSS
Signed minute to commit funding and enter into arrangements WVA
Signed minute to fund GA
ACC deployments (2) ToR, tasking, service orders and debrief reports
DSSPNG – CPR – July to December 2015
Australian Aid PNG Emergency Response Manual 2013
Fiji Preparedness and Response Fund - Statement of Requirements

DFAT policy and standards

DFAT M&E Standards
DFAT Humanitarian Strategy (2016)
DFAT Protection in Humanitarian Assistance Framework (2013)
DFAT Child Protection Guidance Note – Child Protection in Emergencies 2017
Gender Equality in M&E – Good Practice Note
The Gender Equality and Women's Empowerment Strategy 2016

HPA - proposals and reports

CARE / Oxfam HP ERI first report
CARE / Oxfam joint HPA proposal version 2 (\$1,250,000)
CARE / Oxfam HPA project expansion proposal May 2016 (additional \$400,000)
CARE / Oxfam HPA completion report
CARE PNG El Nino emergency response wrap-up symposium
CARE PNG HPA El Niño Response Resilience and Recovery Proposal – October 2016
CARE PNG HPA Community Disaster Management Project Proposal October 2016 – No Cost Extension of the grant
CARE PNG Progress Report May 2016
CARE PNG WASH and Agricultural Preparedness Proposal May 2016
CARE PNG Disease Management Project Proposal October 2016
CARE HPA independent evaluation (Chamberlain)
CARE HPA Evaluation Management Response
CARE PNG El Niño Monitoring – August 2015
CARE Initial Rapid Gender Assessment Report Papua New Guinea 2015 El Niño, Select Communities of Eastern Highlands, Morobe and Chimbu October 2015
HPA Drought Response Evaluation (October 2016)

Summary Report, 2015-16 El Niño Response Highlands Lessons Learnt Workshop, Goroka, May 9th 2017 (funded by DFAT, facilitated by CARE)

World Vision October 2015 Alert

World Vision HPA drought response concept note

World Vision HPA completion report

ANCP - proposals and reports

15 11 20 PNG – CARE WASH Preparedness Proposal DFAT – revision” – original proposal

CARE PNG WASH and Agriculture Preparedness Proposal May2016” – revised proposal – no cost extension

CARE PNG WASH Preparedness Project Implementation Report” – Interim report

37891-101_Highlands_ElNiñoWASH-PNG_Final-Report” – final report

Other partners - proposals and reports

NARI Strengthening capacity of communities to cope with El Nino Impact proposal

NARI drought activity completion report

Geoscience Australia Proposal

Geoscience Australia Completion Report and Addendum

CPP El Nino Response Program – DFAT Funding Order ADRA

CPP El Nino Response Program – Food Security Impact Assessment Kandep-Panduaga

CPP El Nino Response Program – Food Security in South Simbu assessment March 2016

CPP El Nino Response Program Report February-March, and April 2016

CPP El Nino Response Program Summary of Outcomes

CPP El Nino Response Program Activity Completion Report and Acquittal

CPP El Nino Response Program – ALWS Final Report

CPP El Nino Response Program – Caritas Final Report

CPP El Nino Respond Program – RFQ ANU Enterprises for Mike Bourke

Bourke, R.M., Allen, B. and Lowe, M. (2016). Estimated impact of drought and frost on food supply in rural PNG in 2015. Policy Brief 11. Development Policy Centre, Crawford School of Public Policy, The Australian National University, Canberra

Assessing village food needs following a natural disaster in Papua New Guinea, M.B. Kanua, R.M. Bourke, B. Jinks, M. Lowe, October 2016, Church Partnership Program, Port Moresby

GoPNG

National Agricultural Recovery Plan, Department of Agriculture and Livestock

NDC Assessment Reports (released 27 October 2015)

UN

PNG Disaster Management Team (DMT) El Niño Preparedness Workshop report Lamana Hotel 11- 12 June 2014

NDC/WFP Food Security Assessment (mVAM) identifying 6 severely affected LLG (Feb 2016)

CERF After Action Review November 2016

WFP EMOP 200699 and two Budget Revisions

Papua New Guinea: El Niño Early Action Plan (2017) (UNDMT led process)

Concept Paper: Food security surveillance and analysis for emergency preparedness and response in Papua New Guinea, a joint activity by World Food Programme, National Disaster Centre, Department of Agriculture and Livestock, National Statistics Office, One UN (FAO and UNDP)

Papua New Guinea mVAM Food Security & Livelihoods Monitoring System, Report 3, July 2017

PNG Mobile Food Security Assessment Round 3 Key Findings April – June 2017, PNG mVAM Food Security Assessment Consultation Workshop 27 July 2017

Annex 3: People interviewed

Australian High Commission Port Moresby

Benedict David - Minister Counsellor, Human Development and Infrastructure
Ed Vrkic – Counsellor, Program Effectiveness & Climate Change
Darian Clark, First Secretary, Program Effectiveness & Climate Change
John Francis, First Secretary, Program Effectiveness & Climate Change
Penny Nettlefold, Second Secretary, Program Effectiveness & Climate Change
Nige Kaupa, Program Manager, Program Effectiveness & Climate Change
Jenny Max, Program Officer, Program Effectiveness & Climate Change
Nathan McIntosh - Second Secretary Health, DFAT

DFAT Canberra

Andrew Egan - Assistant Secretary, Stabilisation and Recovery Branch (SRB)
Peter Lindenmayer - Director PNG Infrastructure and Human Development Section, PNG Branch
Trina Mohit - A/g Director PNG Infrastructure and Human Development Section, PNG Branch
Steve Darvill - Director – Disaster Risk Reduction Section (SRB)
Nicola Ross - Assistant Director, Humanitarian Response and Partnerships Section (HRS) and PNG Branch (pre-postee)
Sally Laird - Senior Policy Officer – Disaster Risk Reduction Section (SRB)
Steve Burns – PNG Human Development and Infrastructure Section
Jane Bastin-Sikimeti – PNG Branch
John Cullen – PNG Branch
Tim Gill - Agricultural Productivity and Food Security Section
James Marshall - Agricultural Productivity and Food Security Section
Sharon Lim- Office of Development Effectiveness

Other Australian government

Martine Woolf - Director Regional Development Unit, Geoscience Australia (with Ricky Weber)
Arthi Partel – consultant (formerly DFAT)
Gail Owen – Australian Civilian Corp member deployed
Eileen Turare – formerly DFAT
Rebecca Bogosia – Assistant Country Manager, ACIAR
Paul Murphy – Australian Consul-General in Lae

GoPNG

Martin Mose – Acting Director, National Disaster Centre
Lucitor – National Disaster Centre
Charles Masange - Director, Provincial Disaster and Emergency Services, Morobe Provincial Administration
Provincial Administrator, Morobe Province
Michael Kape - Provincial Administrator, Milne Bay Province
Steven Tobesse - Provincial Disaster Coordinator, Milne Bay Province
Robin Yakumb - Provincial Disaster Coordinator, Western Highlands Province
Allen Los – Director, District and Local Government, EHP
Karl Aiten – Provincial Disaster Coordinator, EHP
Dr Sergie Bang - Director General, National Agricultural Research Institute (NARI)
Greg Isau – former District Disaster Coordinator, North Fly
Goneang Yokower – District Disaster Coordinator, South Fly
Dickson Barth – District Finance Officer, North Fly
Obert Ambert – District Disaster Coordinator, Telefomin

Dul Lule – Councillor, Trangap Ward
Dr Ramakrishna Akkinapally - Deputy Director General, NARI
NARI Research Station Tambul WHP:
Kud Sitango – Research Development Coordinator & Team Leader EU Rural Economic Development Project
Stanley Auibea – Livestock Research Scientist
Jonah Anton – Crop Agronomy Research Scientist
Mauro Okrupa – Research Associate, EU Rural Economic Development Project
Fuapo Pokia – NARI contact farmer

UN

Hemansu-Roy Trevidy – UNDP Resident Representative
Gerard Ng - UNDP
Sharifov – UNDP
Kelly Charles – independent consultant to UNDP
Verkat Dheervath – WFP
Siemon Hollema – WFP
Miriam Mondia - FAO
Wonesai Sithole – Emergency & Disaster Management Coordinator, IOM
Dr Monjour Hossain - Chief Child Survival & Development, UNICEF
Hanifa Namusoke - Nutrition Specialist, UNICEF

NGOs

Stefan Knollmayer - Humanitarian and Emergency Response Unit, CARE Australia
Patrick McCloskey – Coordinator PNG Country Programs, CARE Australia
Justine McMahon – Country Director, CARE International in PNG
Anna Bryan – Manager, CARE International in PNG
Trudye Sikas – Senior Resilience Officer, CARE International in PNG
Joy Waffi – Project Manager Better Governance for Education, CARE International in PNG
Meg Quartermaine – Humanitarian Manager, OXFAM Australia
Charlotte Kakebeke – Director – Programs, OXFAM (PNG)
Dennis Uba - Country Representative (PNG), Caritas Australia
Felicity McCullum - Pacific Humanitarian Coordinator, Caritas Australia
Mike Constable - Manager, Church Partnership Programs at UnitingWorld, Sydney
Sally Lloyd – Western Province

Church Partnership Program

Thomson Yawe – Church Partnership Program Coordinator, Anglicare PNG Inc
Jimmy Jacobs - Program Coordinator, CPP project, ADRA PNG (Lae)
Marek Soos - Programs Director, ADRA PNG (Lae)
Mary Tanloulou - Coordinator, Evangelical Lutheran Church of PNG (ELCPNG) Church Partnership Program (CPP)
Asenath Tubian - Program Officer, ELCPNG CPP
Jephthah Girinde - Director Planning, ELCPNG
Jenny Mek - Caritas Coordinator, Mt Hagen
John Hosea – Disaster Coordinator and CPP Coordinator, Baptist Union (Mt Hagen)
Justin Taper – Assistant Disaster Coordinator

Red Cross

Pauline Ross – Highlands Regional Branch Manager, PNG Red Cross
AJ Meg Buri – Chairman, Western Highlands, PNG Red Cross

Other

Dr Mike Bourke, Tropical Agricultural Consultants Pty Ltd

Brendan Jinks – Research Scholar, Pacific History, School of Culture, History and Language, ANU College of Asia and the Pacific

Mission Aviation Fellowship, Mt Hagen

Magiwa Kuli – Base Manager, Central Aviation (Kiunga)

Derek Buntrok – Pilot, Central Aviation (Kiunga)

Samuel Laurie - Secretary Resource Centre, Henganofi

Thomas White – Community leader and trader, Oksapmin

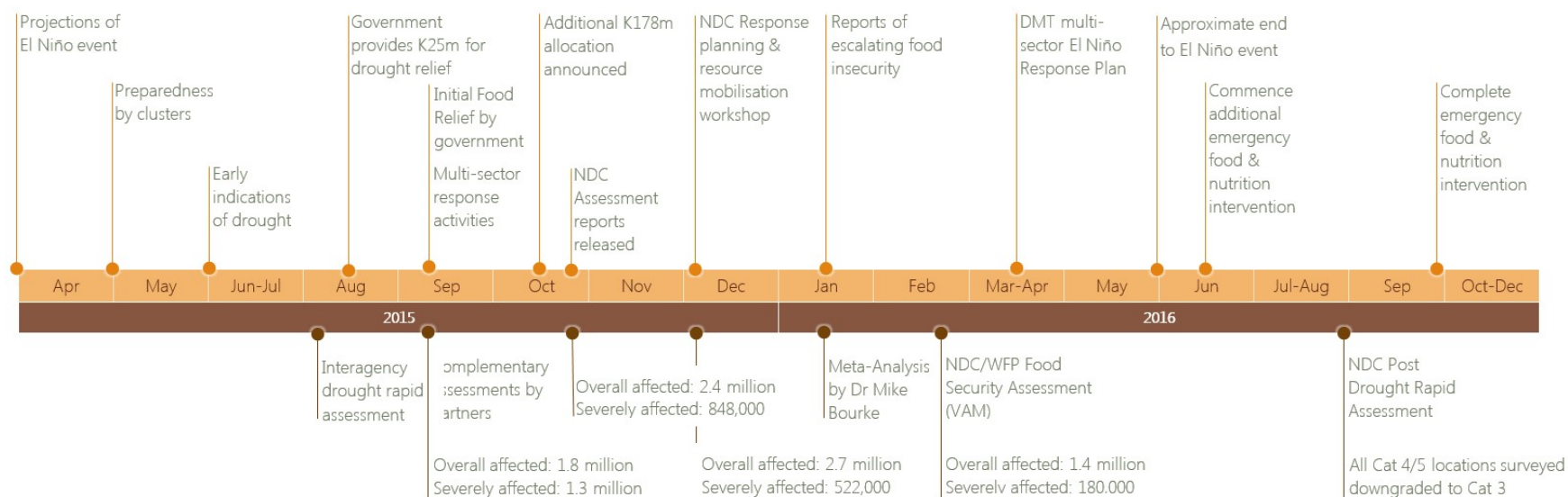
Annex 4: Itinerary and tasks in PNG

Date (2017)	Locations/Flights	Task s (not including research/writing-up)
31 July	Port Moresby (POM)	Briefings at Aust. High Commission (AHC)
1 August	POM	Meeting at National Disaster Centre Interviews UNDP Interviews UN WFP
2 August	POM	Interview FAO Interview DFAT Health Team
3 August	POM	Interview ACC deployee
4 August	POM	Interview IOM Interview Anglicare (CPP)
5 August	POM	Interview former DFAT Operations team member Interview ACIAR Interview UNDP consultant
6 August (Sun)	POM - Lae (dep 16.00)	
7 August	Lae, Morobe Province	Interview Australian Consul-General Interview Director, Provincial Disaster and Emergency Services, Morobe Interviews ADRA (CPP) Interview Provincial Administrator, Morobe Interview Director General and Deputy Director General, National Agricultural Research Institute
8 August	Lae - POM (dep 7.00) POM - Alotau (dep 8.50) Alotau, Milne Bay Province	Interview Provincial Disaster Coordinator, Milne Bay Interview Provincial Administrator, Milne Bay
9 August	Alotau - POM (dep 14.00)	Further interview Provincial Disaster Coordinator, Milne Bay
10 August	POM	Interviews UNICEF
11 August	POM	Interviews Evangelical Lutheran Church of PNG (ELCPNG) (CPP)
12 August	POM	Interviews Caritas Australia
13 August (Sun)		
14 August	POM	Attend Australian Humanitarian Partnership symposium
15 August	POM - Mt Hagen (dep 15.00) Mt Hagen, Western Highlands Province (WHP)	Interview UN Resident/Humanitarian Coordinator Interviews, Mission Aviation Fellowship
16 August	Mt Hagen	Interview Provincial Disaster Coordinator, Western Highlands Province Interview Caritas Coordinator
17 August	Mt Hagen/Tambul	Interviews NARI Research Station Tambul Inspection NARI Research Station Tambul Interview community members Tambul Interview NARI contact farmer Tambul

		Inspect some gardens and discuss practices Debriefing meeting at NARI Research Station
18 August	Mt Hagen - POM (dep 13.00)	Interviews Baptist Union Interviews PNG Red Cross
19 August	POM	
20 August (Sun)	POM - Goroka (dep 15.30)	
21 August	Goroka, Eastern Highlands Province (EHP)	Interviews CARE and Oxfam Interviews District and Local Government Interview Provincial Disaster Coordinator
22 August	Goroka/Henganofi	Interview community members Henganofi Inspect bulking plot and discuss results Inspect some gardens and discuss practices Interview men and women who participated in the ADAPT training Interview Secretary, Resource Centre Interview school principal Debrief with CARE
23 August	Goroka - POM (dep 17.05)	Delayed flight
24 August	POM - Kiunga (dep 7.00) Kiunga, Western Province	Interviews Central Aviation Interview former District Disaster Coordinator, North Fly District Interview District Disaster Coordinator, South Fly District Interview District Finance Officer, North Fly Interview community leader and trader, Oksapmin LLG, Telefomin District, W Sepik
25 August	Kiunga – Oksapmin Oksapmin, Telefomin District, West Sepik Province	Interview District Disaster Coordinator, Telefomin Interview Councillors, Trangap and Teken Wards Drive Oksapmin airstrip to Teken and walk back interviewing members of Oksapmin LLG community (approx. 30 men, women and children in all in groups of 1 to 3)
26 August	Kiunga - POM (dep 17.00)	Flight delayed
27 August (Sun)		
28 August	POM	Presentation of Aide Memoire to Operations team
29 August	POM	Presentation of Aide Memoire to Counsellor

Annex 5: Timeline of Events 2015-16

A Timeline of Key Events during the 2015-2016 El Niño (source: UNDP)



Annex 6: Analysis of Assessments

Government of PNG assessments

1. On 19 August 2015, the Chief Secretary called an emergency meeting of key government institutions and announced that K 5 million was being processed by Treasury to carry out assessments and instructed the National Disaster Centre and the Department of Provincial and Local Government to dispatch survey teams as soon as funds were available.⁵² Rapid assessments were subsequently conducted for all four regions of PNG, mainly by government personnel but with some involvement from the PNG Red Cross and IOM (hereinafter the 'Government assessments'). DFAT was invited but did not participate.⁵³ The Highlands survey was undertaken first, from late August 2015.
2. The assessments addressed food supply, water supply and health impact however the emphasis was on crop damage and food aid requirements (rice specifically). The approach was mainly asking provincial authorities and other informants for their assessment/estimates, although there was direct observation in some areas. Assessment results for the four regions were not formally released until 27 October 2015. In the interim Disaster Management Team members including DFAT met regularly for two months waiting for this information.
3. Taken together the regional assessments rated 35 districts in 18 provinces - estimated population of 2.14 million - as Category 4 or 5 ('No food in gardens, famine food only being eaten' and 'Extreme situation. No food available at all' respectively).⁵⁴ However, not all people in all districts were believed to require assistance - the aggregate number estimated to require emergency food assistance (for three months generally) totalled more than 1.33 million⁵⁵. A standard rice ration only for this population for this period would have required approximately 48,000 tonnes of rice.⁵⁶ The Highlands Region population alone estimated to need emergency food assistance was 587,113, requiring theoretically approx. 21,000 tonnes of rice. These estimates are mentioned to make the point that while useful the Government assessments generated tonnages that could not realistically be funded and distributed.
4. Despite all the anticipation and attention, the Government assessments informed but did not drive the Government response - politics intervened and Government assistance was essentially put in the hands of local Members of Parliament who did not liaise with the NDC or provincial and district administrations.

Non-government assessments

5. Some important assessments and analysis were conducted by NGOs, church organisations and researchers. Only a small selection of these are commented on below.
6. In September 2015, United Church combined efforts with its partner church in Australia (Uniting World) to conduct assessment of food shortages and impact on livelihoods in the high-altitude areas of Western Highlands, Southern Highlands, Hela and Enga Provinces

⁵² Source: NARI Deputy Director, interviewed in Lae

⁵³ Source: Nige Kaupa, DFAT

⁵⁴ Consolidated Matrix of Drought and Frost Impacts in All Provinces as at 6 October 2015

⁵⁵ Based on the consolidated matrix dated 6 October 2015.

⁵⁶ More than 1,331,672 people @ 400 grams of rice per day for 90 days

and reported alarming results which led to the Church Partnership Program leadership adopting a resolution to initiate an El Nino Drought Response Project and a request to DFAT for assistance.⁵⁷

7. In January 2016, a meta-analysis of the impact of drought and frost primarily on food supply was released by Bourke, Allen and Lowe, ANU researchers with considerable knowledge of agriculture in PNG⁵⁸. This was based on a range of reports from authorities and organisations on the ground coupled with phone calls made to contacts in various locations and an approximation based on knowledge/experience from the 1997-98 drought. The researchers estimated that a maximum of 770,000 people lived in locations where food was very scarce (Category 4) or extremely scarce (Category 5). The majority (53%) were in the very high altitude zone, 35% in the highlands fringe, 9% in the interior lowlands of Western Province, and the balance of 3% on very small islands in Milne Bay Province. The researchers noted that the 770,000 figure was an upper limit and the number of people very short of food was likely to be considerably less, as not everyone in an LLG area was similarly impacted⁵⁹ and they recommended that urgent and immediate field checking be undertaken, which would reduce the number of those to be assisted, and to set priorities for the delivery of food aid.⁶⁰
8. On 22 December 2015, the PNG National Weather Office had declared that the peak of El Nino conditions had been reached. Nevertheless, in January 2016 there were reports that the food security situation in some provinces was deteriorating, particularly remote areas with limited access to the cash economy and where the logistic costs generally meant government could not deliver relief supplies.⁶¹ In March 2016 a CPP assessment conducted an assessment in Enga and Hela Provinces and reported that small quantities of rice had been distributed unevenly by the two provincial governments and most people in the isolated, high altitude areas (2200-2800 metres) were living solely on cabbages and self-sown foods. They reported that in these areas sweet potato and potato crops had failed, heavy rains had not translated into crops growing, there was no planting material available, and no cash economy. They also reported “drought related deaths”, out-migration and the abandonment of children. They recommended emergency food aid for an extended period.⁶²

WFP mVAM assessment

9. WFP conducted some form of limited assessment in 2015 and in November a senior visiting WFP representative reported to the Disaster Management Team that he would recommend to the Regional Office in Bangkok the provision of emergency food aid for 300,000 persons (12,420 tonnes of tinned fish). This did not eventuate. Instead, from 28 January to 24 February 2016, WFP in consultation with the NDC conducted a mobile Vulnerability and Mapping (mVAM) survey at the LLG level of districts categorised as 3, 4 and 5 by the Government’s 2015 assessment. 3,708 people were interviewed by phone from the Digicel call center in Port Moresby. The results were made available in late March 2016. The mVAM indicated to WFP that 1.31 million people were experiencing “high food insecurity impact” and that 223,700 people were experiencing “severe food security impact” and required

⁵⁷ Source: Matthew Kanua

⁵⁸ ‘Estimated impact of drought and frost on food supply in rural PNG in 2015’, R.M. Bourke, Bryant Allen and Michael Lowe, Development Policy Centre Policy Brief 11, January 2016

⁵⁹ p 2

⁶⁰ pp 4, 5

⁶¹ See Oxfam SitRep 7 January 2016 and DMT minutes 22 April 2016 (Gerard Ng reference to deterioration of the food security situation at the start of 2016).

⁶² Kandep Basin, Enga Province and Panduaga Valley, Hela Province PNG Food Security Impact Assessment, Church Partnership Program, 22 – 24 March 2016, Komengi, Jinks and others

immediate food aid. The latter included 162,000 people in five LLG in the Highlands - Hela, Enga and Chimbu - and one LLG in Western Province. 18,700 people in Milne Bay outer islands were added in response to information from the Provincial District Administrator and 43,000 people in other affected pockets around the country were also added.

10. For WFP, the survey demonstrated that the food security situation had deteriorated significantly since January 2016 and it provided the rationale for an emergency food aid operation. Although surprising to some, the persistence of need was corroborated by the CPP assessment conducted in Enga and Hela Provinces in March 2016 (para 8 above).

Flaws in assessment methodologies

11. The categories generally used to rate impact and need in PNG in 2015/16 were almost identical to those introduced in 1997/98 (the main change was amending the Category 5 description to *'Extreme situation. No food available at all'* to better differentiate it from Category 4). When determining food availability using these categories assessors focus on the impact of drought and frost on subsistence food availability. This omits a critical consideration in the International Phase Classification (IPC) assessment tool which is *access* to food by all means e.g. obtaining food from wantoks, drawing on savings to buy food, or obtaining assistance from employed relatives. Assessors would be aware of the importance of these means of accessing food but the category definitions do not lend themselves to incorporating food availability in the broadest sense. As a consequence, the assessments have tended to over-state the need for emergency food aid (as was the case in 1997/98⁶³). This was evident during field work for this evaluation in Tambul where people whose gardens had been severely damaged by frosts variously reported continuing to market vegetables into Mt Hagen to generate income, relying on wantoks not affected by the frosts, and relying on family members or relatives working in Mt Hagen. There was little if any out migration, unlike 1997/98, apparently due to the growth of the cash economy over 20 years. Several representatives of churches within the Church Partnership Program stated that Category 4 and 5 were applied without taking into account the wantok system, access to cash, ability to relocate and other adaptation.⁶⁴
12. WFP's mVAM is a necessary innovation given the practical difficulty of conducting surveys in PNG but the data must be ground-truthed by some means and the current version should be peer reviewed. Like other assessments in PNG, the mVAM focuses on subsistence food availability rather than the broader issue of access to food. Some questions are asked that touch on the broader issue but these do not inform WFP's classification. The criteria that drive the classification only draw on 4 of the 27 questions. The criteria and the relevant questions are: 1. The reported "food supply situation" (draws on question 1); 2. The number of households suffering from hunger and consuming famine foods (questions 3 and 4); and 3. The number of deaths in the community reported by respondents (question 12). Question 1 inquiring about the "food supply situation" would inevitably be answered primarily with reference to subsistence production (no guidance is given to the interviewee to address access to food more broadly).

⁶³ The Review ... is of the view that the assessments of relief needs underestimated the ability of rural people in many parts of Papua New Guinea to cope: non-garden food was generally available and many people had access to assistance through traditional networks. *Review of Australian Assistance to the PNG Drought of 1997/98*, executive summary, p iii

⁶⁴ For example, Evangelical Lutheran Church of PNG

13. This is not to say that all people had access to cash or to markets. The point is that the assessment methodology used in PNG does not lend itself to distinguishing between localities that have access to food by other means when production fails, and those that don't i.e. distinguishing between localities that are relatively resilient and those that are relatively vulnerable. Apart from the obvious vulnerability of particularly isolated and remote communities, determining relative resilience and vulnerability is always going to be challenging, but there is really no alternative given the practical impossibility of providing blanket rations to over a million people in difficult to access districts of PNG.
14. As was found in relation to the 1997-98 response, the various assessment teams fielded by government and non-government actors in 2015/16 generally "lacked emergency relief experience and few had the skills necessary to adequately assess nutrition, health, and water supply."⁶⁵

⁶⁵ p 44

Annex 7: Mortality and child malnutrition

All-causes mortality and the impact of El Niño

15. It is likely that there was some increase in all-causes mortality due to the 2015 El Niño, that is, that the health status of many persons deteriorated making them more vulnerable to morbidity and mortality. (Most morbidity is said to have occurred when the first rains came in 2016 rather than during the dry periods of 2015.) But such an increase is impossible to quantify. There are no accurate statistics on all-cause mortality (i.e., accurate and timely death reporting in general) in non-drought time, thus no baseline, and calculating the additional number of deaths in 2015/16 would require undertaking a labour-intensive nationally representative retrospective mortality survey, and there are other factors that change from one year to another that would have to be taken into account (e.g. drug supply in health centres).
16. It was reported by NGOs and others that there was an increase in water-borne diseases in 2015 as alternative sources of water were relied on during the drought. Malaria increased sharply following the drought in Nomad LLG, Western Province, including a number of deaths.⁶⁶ With reduced food intake some lactating mothers may have produced less milk, exposing infants to greater risks of infection, while weanlings might have faced a scarcity of appropriate weaning foods. Although cases of oedema were reported from Nomad LLG in Western Province in January 2016, those children survived and death by starvation was not reported. The former South Fly Disaster Coordinator told the evaluator that any deaths that occurred were not from direct starvation but because people were weakened by the drought and succumbed to diseases.⁶⁷ Having said that, there is likely to have been an increase in acute malnutrition in children under five, making them particularly vulnerable.
17. There has been an assertion that there may have been an overall increase in deaths in the order of several thousand. But this is based essentially on supposition and there are no means of testing it. Key informants interviewed including church partners commonly responded to this assertion by stating that if excess mortality was that high, they would have learned of it through their networks. The Government of PNG has not acknowledged any drought related deaths and it remained a politically sensitive issue. An NDOH report based on a survey of health facilities in several Category 5 districts in August 2015 reported: “Deaths reported in the media were not verified by the authorities on the ground in the respective health facilities.”⁶⁸
18. Nevertheless, there was a local perception in several areas that there were drought related deaths including remote communities in Western Province and in the Highlands. Several church assessments in the Highlands reported that they were told of drought related deaths, although these could rarely be followed up and verified.⁶⁹ WFP’s mVAM survey conducted in early 2016 included a perceived mortality question and close to half of all respondents (47 percent) reported that people in their community had died as a consequence of the drought. WFP did not intend this data to be used to calculate excess mortality and it is

⁶⁶ Sally Lloyd, local NGO contact

⁶⁷ Goneang Yokower interviewed Kiunga 24 August 2017

⁶⁸ NDOH, Brief summary report on health service risk assessment team visit to the highlands, 14-18 October 2015

⁶⁹ El Nino 2015 United Church Drought/Frost Assessment Report Mathew Kanua October 2015 (p v). See also Komengi and Jinks March 2016 Enga and Hela Provinces and Matthew Kanua Simbu Province also March 2016

methodologically problematic but some of the deaths reported by mVAM respondents may well have been at least partially drought related.

Child malnutrition in PNG and the impact of El Niño

19. Children in PNG have poor pre-existing nutritional outcomes, with high levels of stunting and undernutrition as well as high levels of anaemia and Vitamin A deficiency. The child stunting rate (chronic malnutrition) in 2010 was almost 50% (the fourth highest in the world) and those moderately or severely malnourished was about 16% (which exceeds WHO emergency response thresholds).⁷⁰ According to IFPRI the [global estimate](#) of deaths of children under five associated with malnutrition is 45%.⁷¹ This pre-existing situation could fairly be described as a 'silent emergency'. PNG is yet to implement nutrition programming, at scale, to address it.
20. Food insecurity and drought are not the primary drivers of high child malnutrition rates in PNG. Rather they are low rates of exclusive breastfeeding in the first six months; sub-optimal infant and child feeding practices (including lack of protein intake), and a high prevalence of diseases associated with lack of access to safe drinking water and sanitation, such as diarrheal disease.⁷²
21. The data on malnutrition referenced above is several years old and can't be used as a pre-drought baseline, and no population based survey was undertaken for the drought. As a result, it is not possible to satisfactorily determine the impact of the drought on malnutrition. Logically it would be reasonable to expect some impact but there is a lack of good data to test this hypothesis. Some NGOs that conducted MUAC screening in 2015/16 (including for example World Vision and CARE) reported rates of MAM and SAM that were suggestive of rates below the presumed pre-existing rates, while others (Oxfam and Save the Children) seemed to report higher rates than the presumed pre-existing rates. It is hard to deal with any data that is not population based.
22. WFP confirmed in its 2016 project document that there was "no data available to illustrate a deterioration in the nutrition situation as a concrete consequence of the drought". Nevertheless, WFP concluded, based mainly on anecdotal evidence (most critically from MSF assisting the hospital in Tari, Hela Province) that there was a clear pattern of escalation in Global Acute Malnutrition (GAM), which would invariably have led to an increase in Severe Acute Malnutrition (SAM) cases. This and the 2016 mVAM findings was the basis for including a UNICEF nutrition component in the CERF-supported intervention in mid 2016 "in order to avert excess malnutrition and mortality".⁷³
23. If such a response was required in mid-2016 it would be reasonable to assert that the Nutrition Cluster should have developed a strategy for an earlier coordinated and substantive nutrition response, seeking funds from leading donors like DFAT. Instead there were ad hoc responses implemented mainly by NGOs and including MUAC screening, some limited nutritional support, and some health centre staff training.

⁷⁰ See [Papua New Guinea Household Income and Expenditure Survey \(HIES\) 2009-2010](#), where the child stunting rate is put at 48.2% (Table 5.14, p. 90). See also [Global Nutrition Report 2016: From Promise to Impact, Ending Malnutrition by 2030](#), where modelling by IFPRI puts the rate at 49.5% (Table A3.2, p. 120)

⁷¹ See Short changed: the cost of child undernutrition in Papua New Guinea, Majella Hurney, DevPolicyBlog 24 August 2017

⁷² See Short changed p 5

⁷³ WFP EMOP pp 4, 5

24. But the bigger issue was always the 'silent emergency' referenced above which demands a regular long-term programme of Integrated Management of Acute Malnutrition (IMAM). Many perhaps most of the acute malnutrition cases identified and treated by NGOs would have reflected pre-drought prevalence (although this could never have been satisfactorily determined). Moreover, there could be no assurance that a brief intervention to 'treat' MAM and SAM (with Ready-to-use Supplementary Food and Ready-to-use Therapeutic Food respectively) would be effective even in the short term given the complexity of underlying causes. This is not an argument for not addressing malnutrition in an emergency, but for also addressing it longer-term.
25. In 2015, unrelated to the drought, UNICEF commenced a nutrition program funded by DFAT demonstrating how to reverse malnutrition associated mortality at the pilot level, but not at scale. This requires funding and coordination from the Government of PNG, and the further support of development partners.

Annex 8: Response, recovery and resilience investments

Response

1. The CARE and Oxfam projects included (i) standard WASH interventions (providing water containers, water purification tablets, soap and hygiene and sanitation advice); (ii) improvement to small scale water systems at schools and health facilities; (iii) screening of children for malnutrition and outpatient case support training for district health facilities and supplementary feeding for the families concerned; (iv) mop-up immunization activities for children under 5 and women of childbearing age; (v) agricultural training designed to promote drought resistant approaches and techniques; (vi) assistance with the coordination of provincial humanitarian stakeholders, including regional food security sector coordination; and capacity building of key district and community level stakeholders in humanitarian assistance. The joint CARE-Oxfam HPA project targeted 7,000 families and the complementary CARE ANCP project targeted 10,000 households in drought and frost affected highland communities. The World Vision HPA project was similar in many respects but more focused on (i) and (v) above i.e. WASH and agricultural training. The WV project targeted 3,722 families.
2. All of these activities were relevant in principle to assessed needs and built on the considerable experience of the three NGOs in these areas. For example, there had been reported outbreaks of water borne diseases in some areas in the highlands and the WASH interventions were designed to address this and the NGOs had relevant experience and expertise.
3. For CARE-Oxfam the original intention was to phase activities as they applied to response, recovery and resilience, commencing with a response activity focus at the peak of the drought in October-November 2015. However, the joint CARE-Oxfam HPA project did not commence until 13 January 2016, due to delays in processing the application and grant. (CARE's ANCP WASH component approved earlier was held back to commence alongside the HPA component.) CARE and Oxfam had to adapt to this delay. One consequence was that there was no phasing - response, recovery and resilience were collapsed into one.
4. The various WASH interventions undertaken by the three NGOs were useful but less needed by early 2016 when rains had started than they were in 2015 at the height of the drought. There is no direct data on effectiveness e.g. impact on water-borne diseases, and to be fair this would have been very difficult to collect. Recipients of collapsible water containers and water purification tablets expressed different views on their utility – some positive and some negative. Some aspects of hygiene messaging were resisted e.g. changing practices in relation to the disposal of children's faeces⁷⁴. An independent evaluation of the CARE-Oxfam HPA project found that the water infrastructure inspected was generally appropriate in design and well implemented but observed that in some instances the attention to existing infrastructure could be improved and that although the hardware was competently installed there could have been a greater focus on the sustainability of the systems.⁷⁵ The evaluation also recommended supporting WASH committees for another year to ensure they are

⁷⁴ CARE International in Papua New Guinea El Niño Emergency Response Wrap-Up Symposium, 21st September, 2016, Port Moresby (report of proceedings), page 7

⁷⁵ Evaluation of CARE International and Oxfam PNG El Nino HPA Drought Response Project, Peter Chamberlain, October 2016, p 21

functioning and are looking after the water systems installed in the schools, health centres and communities.

5. For World Vision, WASH promotion was conducted alongside the distribution of the water containers and water purification tablets⁷⁶. Under the circumstances, particularly the considerable distraction of the distribution itself, the effectiveness of this messaging is questionable. World Vision reported not necessarily having members on the team with appropriate language skills and messages being 'lost in translation' as a result⁷⁷.
6. The acute child malnutrition intervention was still needed in early 2016 even if it would have been preferable to start earlier. Oxfam reportedly screened a total 3,004 children by project's end with 166 children identified as moderately or severely malnourished (6%), 48 of whom had complications and were referred to provincial hospitals and district health centres⁷⁸. Training health workers to treat malnutrition and providing nutrition resource kits to health centres was very helpful. Unfortunately effectiveness is not reported. Immunising children and providing vitamin supplementation was appropriate as was the provision of supplementary food to the families of acutely malnourished children, but again effectiveness is not reported.
7. The original idea of providing advice to farmers on how to adapt to the drought and frosts was clearly less relevant and appropriate in the highlands by early 2016, but the project adapted its training to focus on recovery and resilience. Assistance with coordination remained appropriate, given that interventions were ongoing. On balance then the response elements remained appropriate overall, albeit less so due to delays.

Recovery and resilience

8. Recovery and resilience: For CARE and Oxfam, the primary element here was combining Agricultural Drought Recovery and Adaptation Trainings (ADAPT) with the provision of tools and NARI planting material and procured vegetable seeds. The original plan was to conduct the training in Hela and Enga Provinces but due to tribal fighting agreement was sought and received from DFAT to conduct it in locations in Chimbu, Eastern Highlands and Morobe Provinces. District based extension workers were included in this training. Some of the training of trainers was undertaken by NARI at its research station in Tambul.
9. In Henganofi in Eastern Highlands the approach at the community level was to engage approx. 30 members of a community in training delivered over two days. Five participants were interviewed and they indicated that the training materials required a higher educational level than they had, that the techniques put forward were not very helpful to them, and they confirmed they had not passed on information to others. They expressed some interest in the plant derived pesticides that had been demonstrated but said they were not making them. NARI sweet potato material that had been planted for community bulking was not ready to demonstrate replanting.
10. In principle, it is not feasible to introduce new or improved agricultural practices in such short timeframes and without follow up. It requires a more engaged, longer-term approach. It is understood CARE and Oxfam hoped to complete the remaining modules of agriculture training but without specific funding this appears most unlikely. In apparent recognition of

⁷⁶ See for example World Vision Completion Report, pp 4, 9

⁷⁷ World Vision Completion Report p 4

⁷⁸ CARE International in Papua New Guinea El Niño Emergency Response Wrap-Up Symposium²¹, 21st September, 2016, Port Moresby (report of proceedings), page 9

this problem CARE and Oxfam stated at completion: “The overall sustainability of the ADAPT interventions requires a longer-term approach which in future should be budgeted for to ensure ADAPT replications continue post TOT training.”⁷⁹ Health and hygiene training would presumably have had similar challenges and weaknesses. Health and hygiene practices cannot be changed quickly.

11. WV agricultural training appears to have been modelled on ‘climate smart agriculture’ and reportedly included indigenous and natural ways of integrated pest control management, proper farming techniques, sustainable practices in planting crops, and food processing and preservation. WV reported that the training raised awareness but there does not appear to have been any follow up to determine adoption and impact.
12. The provision of planting material, bulked first at community level, was a key recovery activity. CARE and Oxfam report that the bulking of NARI planting material at the community level was successful, at least in Morobe Province. This is encouraging but there were evidently exceptions. In Henganofi in the Eastern Highlands members of the group engaged in ADAPT training and associated with the bulking reported to the evaluator that they had not successfully propagated sweet potato and none had been distributed to members. It was clear on inspection that the cassava was doing poorly after more than eight months in the ground (members said NARI’s variety is not as good as theirs). Part of the problem was that the irrigation equipment provided and given to the owner of the land used for bulking was never used because group members contended they should all have received this equipment. The vegetable seed was generally useful, however farmers can and do buy the same seed in Mt Hagen.
13. World Vision reported significant challenges with the procurement and distribution of clean planting materials for drought affected communities in Hela and Southern Highlands Provinces, including NARI’s difficulty in meeting demand and the several months it took for NARI to provide material, delaying the food security component of the project.⁸⁰ Although not stated it appears material was not distributed until very late in 2016.
14. The HPA evaluation found that CARE was the most active of all agencies in ensuring a coordinated response in the highlands, despite encountering various difficulties. In the Eastern Highlands meetings started off well in 2015 but then there was a political impasse which resulted in the closing of many government offices for several months. Meetings started off well in the Western Highlands also in 2015 but didn’t maintain much support over the following months. Chimbu meetings started in March 2016 but again, didn’t happen consistently. CARE hosted a number of coordination meetings in Goroka and Kundiawa for highlands based stakeholders and CARE co-facilitated the highlands region Food Security cluster which acted as a key forum for discussing broad issues related to the response. World Vision chaired the national WASH cluster.

⁷⁹ Completion Report p 3

⁸⁰ World Vision Completion Report p 9

Annex 9: Rice airlifted by DFAT

Local Level Government Area and District	Population	Households	Household Ration (kgs)	Air lifted (kgs)
Oksapmin, Telefomin District	6,000	1,110	10	11,000
Morehead, South Fly District ⁸¹	33,860	6,772	20	135,440
Bamu, Middle Fly District	10,909	1,512	30	45,360
Total	50,769	9,384		191,800
Morehead, South Fly District #2	10,000	1,837	20	38,200
Total	50,769	9,384		230,000

⁸¹ 10 separate airstrips used